TECHNOLOGY DEPT.

NEW EQUIPMENT DIGEST

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December, 1951

Volume 16—Number 12

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Use Inquiry Slips—Pages 8 and 80

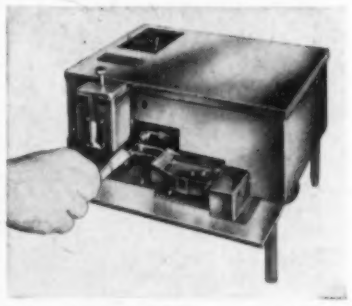
EQUIPMENT MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

HEAT EXCHANGER
has low pressure drop

Maximum gains in refrigeration system for any desired superheating effect and very low pressure drop are characteristics of model HX heat exchangers. Models are available in capacities up to 200 tons. Larger models are standard for Freon 12, but can be obtained for Freon 22 refrigerant upon special order. Heat exchangers are constructed and tested in accordance with ASME code for unfired pressure vessels. Models HX 20 and smaller carry approval of Underwriters' Laboratories. Made by **Acme Industries, Inc.,** 333 N. Mechanic St., Jackson, Mich.

▲ For more details circle **NED-9400** on enclosed inquiry slip ▲

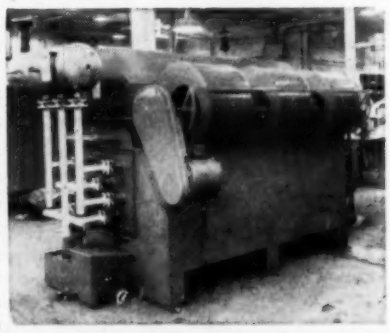
LABELING MACHINE
for use with collapsible tubes



Thirty-two slip labels per minute are applied to collapsible tubes by this labeling machine which automatically forms and ejects label on tube. Adhesive is hot resin type dispensed from thermostatically controlled pot. Machine is ready for operation 10 minutes after switch is turned on. Measuring 17½ x 15 x 9½ in., machine is made in sizes for ⅛, ¼, ½ and 1-oz tubes. Made by **Potdevin Machine Co.,** 1285-A 38th St., Brooklyn 18, N. Y.

▲ For more details circle **NED-9401** on enclosed inquiry slip ▲

SPRAY COOLER
solution prevents ice formation



Air being processed by improved No Frost spray cooler passes over refrigeration coils and through spray of No Frost liquid solution which prevents condensation of water and formation of ice or frost on coils. Unit is applicable to refrigeration of products sensitive to moisture content of air. Chilled air, which can be as low as −20° F, passes directly from spray chamber into room. Close control of conditions results because there is no loss of cooling capacity from frost on coils, no interruption for defrosting and no reheat added to air. Made by **Niagara Blower Co.,** Dept. E. D., 405 Lexington Ave., New York 17, N. Y.

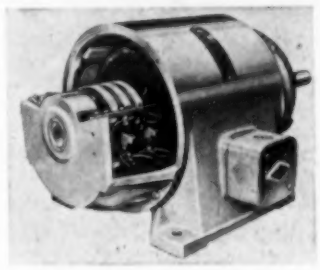
▲ For more details circle **NED-9402** on enclosed inquiry slip ▲

BULLETIN BOARDS
impervious to dirt and grease

Surface coating on Dav-Son line of cork back boards, bulletin boards and plant safety boards protects them from hand marks during installation and from dirt and grease during use. Available with or without glass, boards can be used constantly without repainting or surface refurbishing, even under dusty conditions. Made by **A. C. Davenport & Sons,** 311 N. Desplaines St., Chicago 6, Ill.

▲ For more details circle **NED-9403** on enclosed inquiry slip ▲

SLIP RING MOTORS
flat end bells afford compactness and wide mounting adaptability

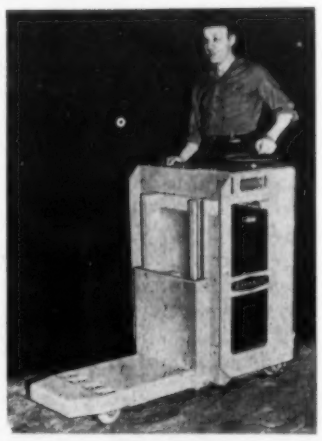


Applications where variable speed or high starting torque on low starting current is required can be served with slip ring motors which feature collector rings and brush assembly housed in regular end bell. This design eliminates protrusion of assembly and reduces overall dimensions to those of standard squirrel-cage motor. End bells are flat, providing mounting versatility, and brakes and other equipment can be attached on either end using face or flange type mountings. Units mount in any position.

Other features include short bearing-to-bearing spacing, wound rotor immersed in varnish and baked to rigid mass and large inspection openings for access to collector rings and brushes. Motors are available separately in ratings from ¾-hp to 15 hp or, in conjunction with gear reducers, in ratings from ¾ to 5 hp, either drip-proof or totally enclosed. Made by **Reuland Electric Co.,** Mission & Fremont, Alhambra, Calif.

▲ For more details circle **NED-9404** on enclosed inquiry slip ▲

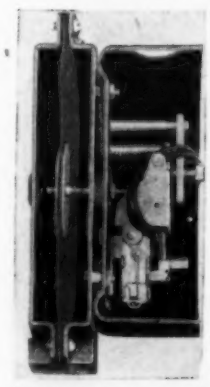
PLATFORM ELECTRIC TRUCK
low-lift riding type carries 4000 lb



Riding-type platform low-lift electric truck speeds movement of skid platforms and cases by handling 4000-lb capacity loads at 5 mph on rubber tire wheels. Offset drive and stabilizing caster arrangement enables it to operate in narrow hand truck aisles and to turn at right angles from aisles narrower than truck's overall length plus load. It can thus be used in trailers, boxcars, elevators and cramped areas. Available in 6, 9 and 11-in. lowered heights, truck features standard 4-in. lift. Platforms are made in 18 and 24-in. widths and standard lengths of 30, 36, 42 and 48 in. Unit is powered by standard tractor, using 12-v, 400 amp-hr battery. Made by **Raymond Corp.,** 41-84 Madison St., Greene, N. Y.

▲ For more details circle **NED-9405** on enclosed inquiry slip ▲

DIFFERENTIAL PRESSURE CONTROLS
diaphragm type units open or close circuits with change in differential

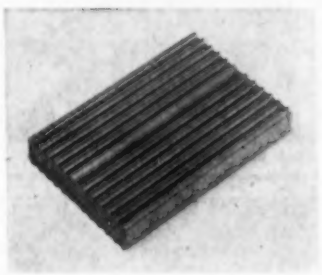


Operating independent of atmospheric conditions, diaphragm type differential pressure controls for pressure or vacuum automatically open or close electrical circuits according to minute change in difference between two pressures. Ranges are 6-in. vacuum to 6-in. pressure and 30-in. vacuum to 30-in. pressure. Switches are rated 20 watts. Large motors can be controlled through use of type V transformer relay.

Several combinations of control functions can be employed by proper arrangement of electrical circuits. Each pressure chamber is connected to separate pressure source, and the forward or backward movement of the diaphragm causes mercury switch to open or close as difference between the two pressures increases or decreases. Made by **Mercoid Corp.,** 4223 Belmont Ave., Chicago 41, Ill.

▲ For more details circle **NED-9406** on enclosed inquiry slip ▲

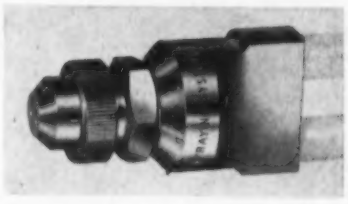
CHROME CARBIDES
nonmagnetic and corrosion resistant



Produced from powdered metals, and containing about 70 per cent by weight of chromium, series 600 metallic carbides feature high resistance to abrasion, erosion and corrosion and to oxidation at high temperatures. Material makes no use of strategic tungsten and cobalt. Coefficient of thermal expansion is about the same as steel. Nonmagnetic "chrome carbide" can be used for gages, gage anvils (illustrated), valve balls and centrifuge blades. Machineability is similar to tungsten carbides. It is available in same sizes and shapes as tungsten carbide. Made by **General Electric Co.,** Carboloy Dept., 11163 E. Eight Mile Rd., Detroit 32, Mich.

▲ For more details circle **NED-9407** on enclosed inquiry slip ▲

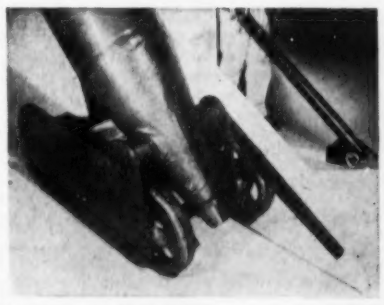
PNEUMATIC ATOMIZING NOZZLE
made of brass or stainless steel



Piping connected to ⅛ JBC pneumatic atomizing nozzle is in line with direction of spray. It is designed for applications where space is limited and where nozzle must be mounted in projected position in relation to part being sprayed. When used for portable operation, two parallel pipes projecting from back can be used as handle. Shutoff valves can be mounted on each pipe. Nozzles are made of brass or stainless steel for use with all standard spraying systems. Various spray types, sizes and volumes are available. Made by **Spraying Systems Co.,** 3211 Randolph St., Bellwood, Ill.

▲ For more details circle **NED-9408** on enclosed inquiry slip ▲

FLOOR MARKING MACHINE
marks within ⅛-in. of walls



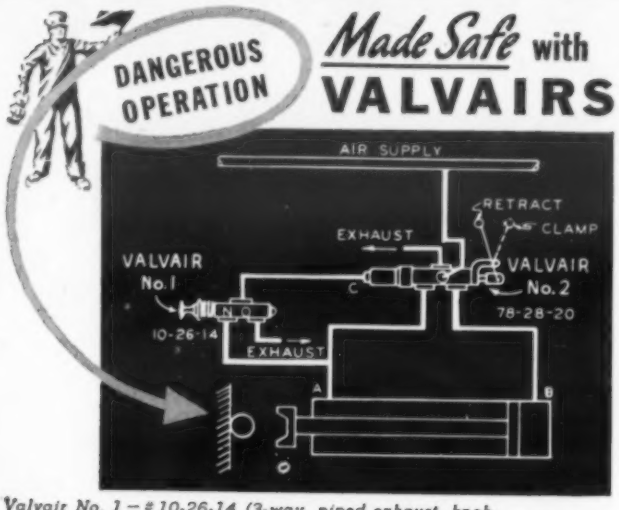
Operating on gravity feed principle, Florline-X floor marking machine will mark safety and parking lines within ⅛ in. of partitions, aisles, machines and stock. Applying lines at walking speed, it has brush that can be raised by lifting hand to retrace, make skip lines or roll to other areas. Paint flow of one-hand operated 20-lb machine is adjustable by trigger control. Leakproof, spillproof marker holds 1½ gallons of paint, lacquer or whitewash, sufficient for about 1200 ft of 4-in. line. Made by **H. C. Sweet Co.,** 12081 Woodbine Ave., Detroit 28, Mich.

▲ For more details circle **NED-9409** on enclosed inquiry slip ▲

HEAT TREATING SLIDE CHART
has forging and annealing data

Among data obtainable with 5 x 11-in. heat treating slide chart are analyses of popular types of die steels, forging heat, annealing treatment and hardening treatment. Facts on quenching, effect of drawing temperature on hardness, heating speed, furnace atmosphere and temperature and time for drawing also are included. Available free from **Carpenter Steel Co.,** 318 W. Bern St., Reading, Pa.

▲ For more details circle **NED-9410** on enclosed inquiry slip ▲



Valvair No. 1 — # 10-26-14 (3-way, piped exhaust, knob-operated, spring return). Valvair No. 2 — # 78-28-20 (4-way, piped exhaust, lever-operated type with pilot cylinder).

Danger removed! Operator must use both hands to clamp work, while only one hand releases it. Thousands of Valvair combinations fit any requirements. Our engineers are waiting to tackle your application safety-wise.

Ask for Folder 49-N-12.

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AFFILIATE: SINCLAIR-COLLINS VALVE CO.

Rely Upon Valvair — 2-WAY — 3-WAY — 4-WAY

For more details circle **NED-9411** on enclosed inquiry slip

A Working Tool

Are you interested in statistics? During the past year, more than 2800 announcements of new equipment, materials, processes or services have appeared in the editorial columns of New Equipment Digest. Our staff has also reviewed and published descriptions of nearly 1000 industrial bulletins, manuals and catalogs during this same year. Similarly, advertisers have placed nearly 6900 units of advertising on established products before you readers.

As a direct result, hundreds of thousands of requests for additional information have been created for the manufacturers and distributors of this industrial equipment and materials. More often than not, these inquiries have resulted in a sale or have 'licked' a tough engineering or production problem. New Equipment Digest is a working tool for thousands of engineering and management executives. Are you profiting by its use?

A. N. Gregg
EDITOR

BEAM LOAD SELECTOR used to specify metal framing

Rapid determination of amount of weight that can be supported by various Unistrut sections under varying conditions of span and unbraced height is possible with pocket-size beam load selector. It also accurately determines number of sections required to support given load. Available free of charge from **Unistrut Products Co.**, Dept. 75, 1013 W. Washington Blvd., Chicago 7, Ill.

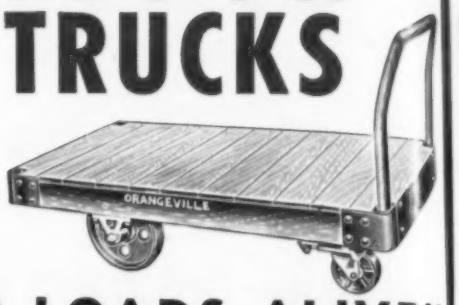
For more details circle **NED-9413** on enclosed inquiry slip

FAST ACTING SOLDER meets government specifications

Melting, wetting the metal and flowing with such speed that separate actions cannot be distinguished, 44 resin-core solder has non-corrosive flux which is electrically nonconductive. It conforms with Army-Navy-Air Force specification MIL-S-6872 (AN - S - 62), U. S. Air Force specification No. 41065-B-Method 31 and Federal specification QQ-S-57lb. Solder is available in all alloys of tin-lead group in strand sizes ranging from 0.009 to 0.250-in. and six different flux percentages. Made by **Kester Solder Co.**, 4249 Wrightwood Ave., Chicago 39, Ill.

For more details circle **NED-9414** on enclosed inquiry slip

FLOOR TRUCKS



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STANDARD SIZES & TYPES
SPECIAL DESIGNS
VARIOUS TYPE WHEELS:
IRON-RUBBER — PNEUMATIC
Write for catalog

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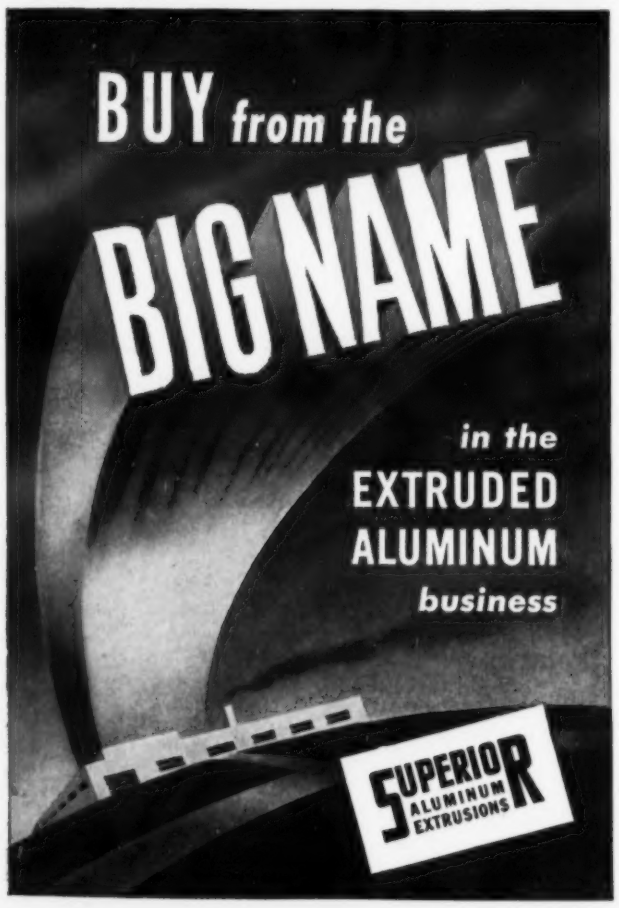
Orangeville 12, Pa.
"Since 1879"

FLOOR TRUCKS ORANGEVILLE

For more details circle **NED-9416** on enclosed inquiry slip



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For more details circle **NED-9412** on enclosed inquiry slip

- Pump Controls
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- Multi-level Signals
- Liquid Metering
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1964 W. Eleven Mile Rd.
Berkley, Mich.

Warrick
FLOATLESS
LIQUID LEVEL CONTROLS
ELECTRODE TYPE

For more details circle **NED-9415** on enclosed inquiry slip

Write for the name of the BROWNING distributor near you
BROWNING MANUFACTURING COMPANY
MAYSVILLE, KENTUCKY, U. S. A.

For more details circle **NED-9417** on enclosed inquiry slip

THE NEW A-B-C *Junior* CASE SEALER

The A-B-C Junior Case Sealer automatically seals corrugated shipping containers in only a fraction of the floor space ordinarily required. Operation is fast—trouble free—economical. A completely new flight chain construction virtually eliminates carton jamming . . . Three semi-automatic models are available to fit most case sizes. Write today for details and floor plans.

A-B-C PACKAGING MACHINE CORP.
QUINCY, ILLINOIS

For more details circle **NED-9418** on enclosed inquiry slip

Hoist Away!

Portable pulling power . . . on the spot. Just plug in this powerful STAMPCO TUGGER wherever an electrical outlet is handy. The TUGGER'S high-torque hoisting motor delivers plenty of power to the drum . . . instantly . . . through a series of precision gears running in a continuous bath of oil.

Drum is reversed, *electrically*, at the flick of a finger. Furnished with either mechanical brake and switch control, or magnetic-type electric brake for remote control stations.

If you are "man handling" those back-breaking lifting and pulling jobs in your plant, remember this—ONE MAN—ONE HAND—ONE FINGER—operates the TUGGER. Reduces labor costs and accidents. A self-liqudating investment. *Write for free Catalog Bulletin today!*

STAMPCO

ST. ANTHONY MACHINE PRODUCTS CO.

2422 East Franklin Ave. • Minneapolis 6, Minn.

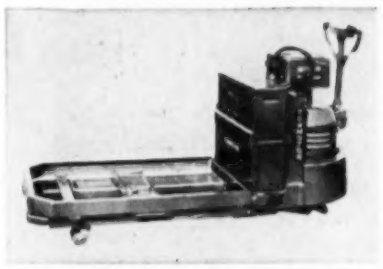
For more details circle **NED-9419** on enclosed inquiry slip

HAND ELECTRIC CUTTING TOOL
portable unit cuts in two directions

Contour cutting and shaping of wood, plywood, plastic, Masonite, paper and fabric as well as light cutting of nonferrous metals and alloys is function of portable electric contour cutting Handshaper. Tool is easily held and guided to follow concave and convex curves, and at same time, moved up or down to cut in two directions. It is furnished with one cutting head; two high speed adjustable cutting blades; 1-hp, 115-v, 60 cycle ac and dc, 18,000-rpm motor; 12-ft extension cord; screwdriver; blade; and head wrenches. All parts are interchangeable. Made by **Composite Die Supply Co.**, Dept. N, 14310 Birwood Ave., Detroit 4, Mich.

For more details circle **NED-9422** on enclosed inquiry slip

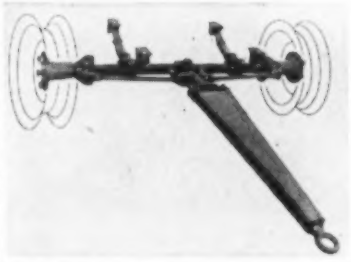
TRUCK PLATFORM ADAPTER
converts pallet truck to platform



Platform adapter attachment for Towmotor model W electric pallet truck converts it for use as platform truck, making possible handling of platforms, skids and tote boxes. Adapter is steel framework which adds height to forks as shown in photo. When not in use it latches in raised position over battery. Open frame construction does not hamper operator visibility. Height of forks with adapter is 7 in. in lowered position, 11 in. when raised. Adapter is available in lengths to match standard pallet truck forks up to 72 in. Made by **Towmotor Corp.**, 1219 E. 152nd St., Cleveland 10, O.

For more details circle **NED-9423** on enclosed inquiry slip

FRONT AXLE ASSEMBLY
10,000 to 12,000-lb capacities



Featuring turning radius of 35 to 45 degrees, depending upon track width and spring location, Caravan front axle assembly has stability obtained by heavy construction and use of heavy 1¾-in. center arm stops. Automotive type assemblies have capacities ranging from 10,000 to 12,000 lb and are usable on air compressors, heavy duty generators, concrete mixers and other mobile equipment which requires maximum stability. Increased wheel turning angle also increases drawbar turning angle and reduces possibility of jack-knifing. Made by **United Mfg. Co.**, 10 W. Interstate St., Bedford, O.

For more details circle **NED-9424** on enclosed inquiry slip

IDEAL "Hand-Type" CLEANER — SUPER POWER • VALUE PERFORMANCE

BLOWS concentrated blast of dry air at 300 *miles* per hour. Blows grit, dust and lint from hard-to-get-at places. Evaporates moisture.

VACUUMS dirt, metal, lint and wood particles, bench litter, etc.

SPRAYS paint, varnish, lacquer, insecticides and deodorants.

Does a Better Job—on Any Job!

TRY IT Free!

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Give us FREE DEMONSTRATION of the IDEAL "Hand-Type" Cleaner in our plant.

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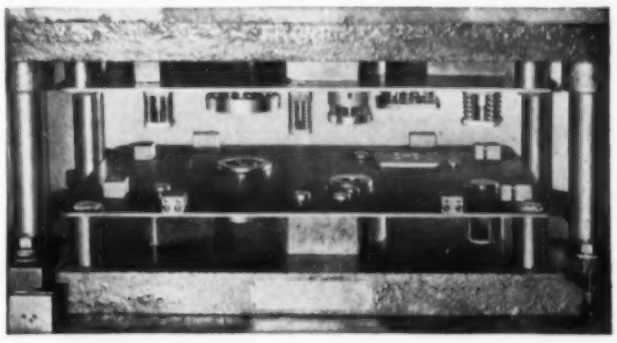
For more details circle **NED-9426** on enclosed inquiry slip



● Magnetic Perforating Die set-up in small inclinable punch press.

Magnetic PERFORATING DIES

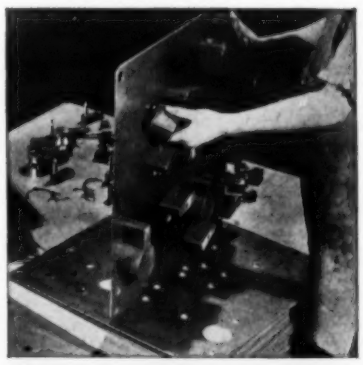
NEW and FAST
Method for perforating Sheet Metal

SAVE PRESS DOWN TIME. Approximately 15 minutes required to change from punching one subject of say 20 holes to a different 20 hole arrangement. Whistler Magnetic Perforating Dies *increase* press production.

HOLD CLOSE TOLERANCES. Hole centers may be held to .0005" accuracy or as close as can be jig bored.

GREATER PUNCH AND DIE LIFE. Concentricity of punch and die assured thus giving uniform clearance around punch, increasing punch and die life.

SAVE FLOOR SPACE. Die storage cut to a minimum because only the 2 locating templets are stored...all that is required to duplicate the set-up.



● Die retainers complete with bushings being inserted in die templet.

REDUCE DIE COSTS. Whistler Magnetic Perforating Punch and Die units are used repeatedly for different hole arrangements. When completing one job, remove all units from templet and put them into service on the next different set-up. Combine any number of hole sizes and shapes. Punch and die costs are amortized over continued re-use in many jobs.

Write for Catalog . . . Whistler Magnetic Perforating Punches and Dies have proven their cost-cutting advantages in many prominent plants. The catalog shows how. Send for it today.

S. B. WHISTLER & SONS, Inc.

750 MILITARY ROAD, BUFFALO 17, N. Y.

Also manufacturers of a complete line of drawing, forming, blanking and progressive dies to special requirements.

For more details circle **NED-9427** on enclosed inquiry slip

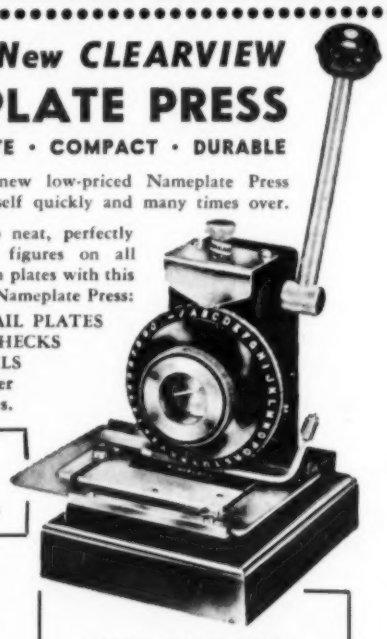
The New CLEARVIEW NAMEPLATE PRESS

EASY TO OPERATE • COMPACT • DURABLE

Here at last is a new low-priced Nameplate Press that will pay for itself quickly and many times over.

Now you can stamp neat, perfectly aligned letters and figures on all types of identification plates with this new, easy-to-operate Nameplate Press:

MACHINERY DETAIL PLATES
KEYS — TAGS — CHECKS
DIRECTORY PANELS
and scores of other identification purposes.



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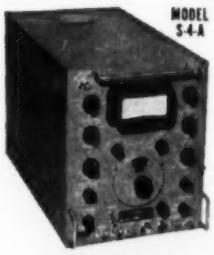
For more details circle **NED-9420** on enclosed inquiry slip

THE SAR PULSESCOPE® BY WATERMAN



MODEL S-4-A

Weight 31.5 lbs.
9⅛" x 11¼" x 17¼"

Another example of WATERMAN pioneering, a compact, portable instrument for precision pulse measurements adaptable for all electronic work, including radar and TV. S-4-A SAR PULSESCOPE will portray all attributes of the pulse; such as shape, amplitude, duration and time displacement. In S mode of operation, the unit functions as a wide band oscilloscope, with optional video delay, in either repetitive or triggered sweep conditions. In A mode of operation the unit functions as a precision time measuring device, with internal crystal controlled markers available for self calibration. In R mode of operation a desired small segment of A Sweep is expanded to fill the face of the tube for detailed observation.

Video Amplifier band pass up to 11 mc . . . optional Video delay 0.55 μs . . . Pulse rise and fall time better than 0.07 μs . . . Video sensitivity of 0.5 p to p/inch . . . S Sweep 50 cycles to 400 KC either triggered or repetitive . . . A Sweep 1.2 μs to 12,000 μs . . . R Delay 3 μs to 10,000 μs . . . Directly calibrated on a precision dial . . . R Pedestal (or sweep) 2.4 μs to 24 μs . . . A & R Sweep Triggers available externally . . . Internal crystal markers at 10 μs and 50 μs . . . Built in precision amplitude calibration . . . Operates on 50 to 1000 cycles at 115V AC.

WATERMAN PRODUCTS CO., INC. PHILADELPHIA 25, PA.
CABLE ADDRESS: POKETSCOPE

WATERMAN PRODUCTS INCLUDE:

S-4-A	SAR	PULSESCOPE
S-5-A	LAB	PULSESCOPE
S-10-B	GENERAL	POCKETSCOPE
S-11-A	INDUSTRIAL	POCKETSCOPE
S-14-A	HIGH GAIN	POCKETSCOPE
S-14-B	WIDE BAND	POCKETSCOPE

Also RAKSCOPES, LINEAR AMPLIFIERS, RAYONIC TUBES and other equipment

WATERMAN PRODUCTS

For more details circle **NED-9421** on enclosed inquiry slip

DUFF-NORTON *Traversing Bases*

Heavy machinery and equipment can be shifted with ease by means of Duff-Norton Traversing Bases. Used with or without screw and ratchet type jacks, loads can be moved horizontally up to 26". You should have a set of these bases in your plant. Investigate the savings they make possible.

HOLDS AND MOVES LOADS UP TO 100 TONS

IN EITHER DIRECTION

Write today for Bulletin AD-4H.

THE DUFF-NORTON MANUFACTURING CO.

Main Plant and General Offices: PITTSBURGH 30, PA.—Canadian Plant: TORONTO 6, ONT.

"The House that Jacks Built"

For more details circle **NED-9425** on enclosed inquiry slip

On any metal finishing problem

DEPEND on DU-LITE TO CUT COSTS

Courtesy Artistic Wire Products Co.

For instance ...

Graphitic compound, grease and oil made these wire dish strainers tough to prepare for plating. Upon using Du-Lite's #31 Cleaner, the strainers were thoroughly cleaned, and surfaces prepared for plating, with a saving of 1000 lbs. of cleaning compound per month.

What's YOUR problem?

Du-Lite's service to industry is complete from research on specific metal finishing problems to installation of processing equipment. Du-Lite's line includes cleaners, strippers, blacking agents, wetting agents, passivating agents, rust preventatives, burnishing compounds etc. for any type of metal.

See your nearest Du-Lite Field Engineer or write for more information.

Du-Lite DU-LITE CHEMICAL CORP. MIDDLETOWN • CONN.
METAL FINISHING SPECIALISTS

For more details circle NED-9428 on enclosed inquiry slip

ELIMINATES unpleasant clean-up JOBS

CUTS COSTS AS MUCH AS 96%

... cleans instantly ... cleans better

WHATEVER your clean-up job is, you can save time and money with the Sellers Hi-Pressure Jet Cleaner. One man in a few minutes can do the work of a whole crew. Even without chemicals, the Sellers Jet will instantly remove sticky or encrusted matter from floors, tanks or processing machinery.

FOR FACTS ON MODERN CLEAN-UP METHODS ... SEND FOR BULLETIN C-7.

SELLERS *Injector* CORP.
Since 1848
1631 HAMILTON STREET
PHILADELPHIA 30, PA.

For more details circle NED-9429 on enclosed inquiry slip

Do You USE or NEED INFRARED HEAT?

THESE USEFUL **DATA SHEETS** Show you how to SAVE TIME & MONEY with CHROMALOX *Electric* RADIANT HEATERS

TELL US your application problems and we'll send you valuable information which may lead to improved production at decreased costs on the jobs for which you use or need infrared heat in your plant.

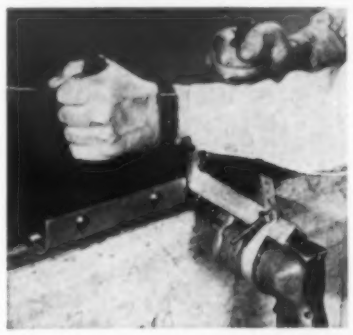
EDWIN L. WIEGAND CO., Industrial Div.
7509 Thomas Boulevard, Pittsburgh 8, Pa.
I need infrared heat for _____
Send me application file on above.
Name _____
Company _____
Street _____
City _____ Zone _____
State _____ 19-21

See other advertisement on page 57

CHROMALOX
ELECTRIC HEAT FOR MODERN INDUSTRY

For more details circle NED-9430 on enclosed inquiry slip

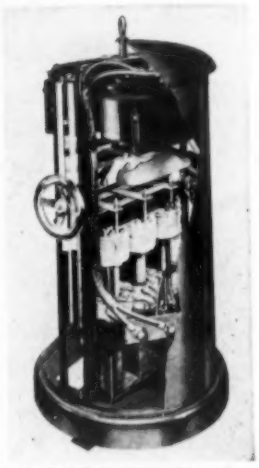
POWER PLANE ATTACHMENT fits portable electric drill



Any ¼-in. portable electric drill can be converted into power plane to take up to 2-in. wide cuts to any depth from 0 to ¼-in. with this attachment. Tool is suitable for ripping operations also, with 1¼-in. maximum depth of cut. Smooth finish work is performed with straight flute blade, while most cutting, ripping and planing operations are performed with Husky spiral blade. Unit is supplied as parts kit ready to assemble for $9.95 and as completely assembled attachment for $14.95. Made by **International Twist Drill Corp.**, 624 Wyandotte St., Kansas City 6, Mo.

For more details circle NED-9431 on enclosed inquiry slip

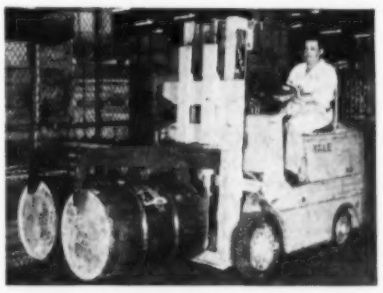
DIRECT CURRENT WELDERS in 200, 300 and 400-amp ratings



Designed for all direct current industrial welding operations, this heavy duty welding machine features primary coils raised and lowered on ball bearing jacks. High velocity downdraft of cool air directed over rectifier stacks before it passes through other parts of machine frees unit of stack failure. Air is expelled at base of welder which is available in 200, 300 and 400-amp ratings. Made by **A. O. Smith Corp.**, Dept. NED-51, P. O. Box 584, Milwaukee 1, Wis.

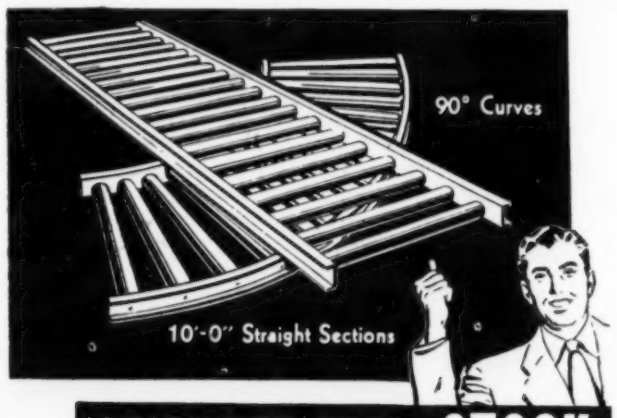
For more details circle NED-9432 on enclosed inquiry slip

DRUM HANDLING DEVICE used without removing truck forks



Automatic and self-contained, this horizontal drum handling device can be attached to any industrial fork truck without removing forks or making any hydraulic or mechanical connections. One or two standard drums can be picked up with Yale handler by lowering it over them while truck is slowly backing away. To deposit drums, truck is moved forward to actuate mechanism. Drums will not drop with sudden stops, when traveling over rough surfaces or when truck channels are tilted. Stacking of drums can be to any height within truck lifting range. Made by **Yale & Towne Mfg. Co.**, Philadelphia Div., Dept. M-1, Roosevelt Blvd. & Haldeman Ave., Philadelphia 15, Pa.

For more details circle NED-9433 on enclosed inquiry slip



SHIPMENT FROM STOCK

What are your needs in stock roller conveyor? Offered in several sizes for average duty conveying. Roller spacing 4" or 6" centers. Roller lengths of 12", 16" and 20". Capacity 75 lbs. per ft. with supports on 10'-0" centers and 380 lbs. per foot with supports on 5'-0" centers. Both stationary and portable supports available. Write for literature.

75th ANNIVERSARY

Check your needs today

Logan Conveyors
LOGAN CO., 215 CABEL ST., LOUISVILLE, KY.

For more details circle NED-9434 on enclosed inquiry slip

FORT WORTH QD *Roller Chain* **SPROCKETS** WITH TAPERED SPLIT HUB

PATENT APPLIED FOR

ELIMINATE REBORING!

SAME HUB FITS "QD" V-BELT SHEAVE

Speed changes are simplified and "spare" sprockets can be carried more easily.

If your favorite distributor doesn't stock this new item, tell him about it. He'll reward you with better service.

"OFF THE SHELF" SERVICE AVAILABLE FROM INDUSTRIAL DISTRIBUTORS

Reboring of stock bore sprockets to fit various shafts is eliminated due to the various bores available in the QD hub. Installation and removal from the shaft is made easy by the tapered fit of the hub and sprocket. Hub assembly grips the shaft equivalent to a "press fit."

Catalog explaining additional advantages and construction details will be furnished on request.

OTHER FORT WORTH PRODUCTS
V-BELT DRIVES
SCREW CONVEYORS and ACCESSORIES
SCREW ELEVATORS
INDUSTRIAL FANS

FORT WORTH STEEL AND MACHINERY CO.
Dept. 2212, 3600 McCart, Ft. Worth, Tex.

For more details circle NED-9435 on enclosed inquiry slip

WOULD YOU ACCEPT $1000.00 AS A GIFT?

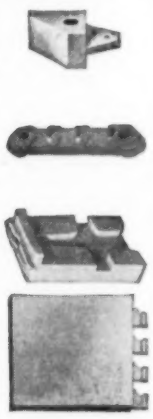
This represents the saving of one of our customers by using investment castings to replace a small machined part. Look over your small parts and let us do the same for you.

INVESTMENT CASTINGS
Can solve many of your small parts problems.

CLOSE TOLERANCES
Eliminate costly machining, provide accuracy at low cost.

INTRICATE DESIGN
Parts that cannot be made by standard methods can be investment cast.

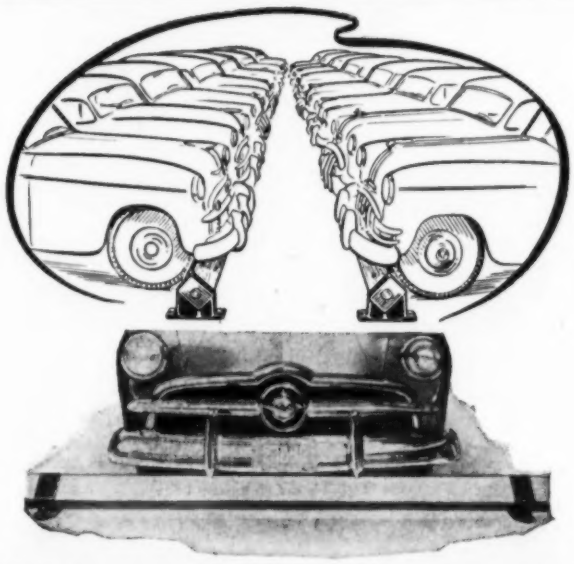
MORE SUITABLE METALS
Metals which cannot be readily machined can be investment cast.



THE ADAPTI COMPANY
2996 E. 72nd St. · CLEVELAND, OHIO

Send for Illustrated Brochure

For more details circle NED-9436 on enclosed inquiry slip



SALIENT FEATURES OF HAR-BAR BARRIERS

1. High enough to stop your car.
2. Low enough to clear your bumper guards.
3. Barrier is above ground — no drainage problem.
4. Barrier is above ground — no rotting of wood.
5. Automatically spaces your cars.
6. Follows contour of your ground.
7. Easily installed — just line up and drive the anchor pins.
8. Easily moved — just pull the anchor pins.
9. Easy to clean under.
10. Easy to maintain.
11. Installed on any kind of surface — black top, cement, macadam, gravel or cinders.
12. It really dresses up your parking lot.
13. You always stop against your tire—no shock.

Send us a plot plan of your parking lot—we do the engineering free.

HARRIS-BARRIER INC. 5407 N. PENNSYLVANIA STREET INDIANAPOLIS 5 - INDIANA

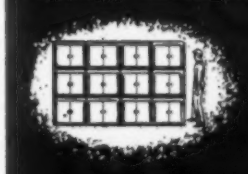
For more details circle NED-9437 on enclosed inquiry slip

GRIEVE-HENDRY PORTABLE ELECTRIC OVENS...

Standard Models For Every Special Need!

Model CR-1
10 cu. ft. capacity—30" wide x 25" deep x 24" high. Removable shelves and drip pan. . . . . $79.50 f.o.b. Chicago

Portable. Costs less than 5c per hour to operate. Adjustable temperature control to 225° F. Fan driven forced air circulation. Uniform temperature throughout. Plugs into any 110V wall outlet—no special wiring required.



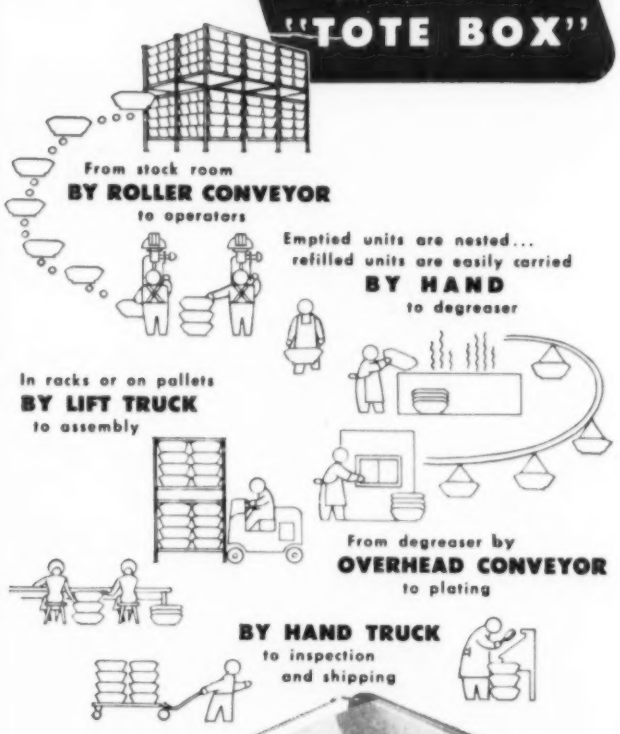
Can be used in a group or bank. Use them on the production line—save handling—hauling.

Other standard models with temperature ranges to 1000°F. available. Write for literature.

GRIEVE-HENDRY CO., INC.
1647 W. HADDON STREET CHICAGO 22, ILL.

For more details circle NED-9438 on enclosed inquiry slip

AT LAST- Scientific Design applied to the "TOTE BOX"



More than just a new materials handling box—the NesTier is a new system—a new technique—that speeds up the flow of work on any production line. It offers four definite advantages over all older methods of handling small parts: (1) saving of space; (2) greatest ease of handling in the stock room, on the assembly line and in transportation throughout the plant; (3) adaptability to conveyor systems; (4) visibility and easy accessibility of parts.

NesTier materials handling boxes nest when empty—tier when filled. Tiered, parts in all boxes are visible and accessible. NesTiers are ruggedly constructed of heavy gauge steel and are available in two standard sizes: No. 220—16 ga., 22⅝" long, weight 15 lbs.; No. 175—18 ga., 18⅛" long, weight 6 lbs.

Write for full details on NesTiers, racks, trucks, monorail carriers and dollies.

Our service includes complete engineering advice on systematizing the handling of small parts in your plant. Your inquiries are invited.

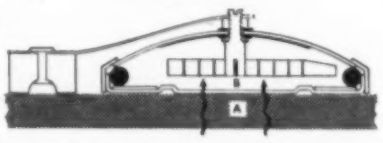
THE CHAS. WM. DOEPKE MFG. CO., Inc.
Rossmoyne, Ohio

NESTIER Metal Specialties Division

For more details circle NED-9439 on enclosed inquiry slip

SURFACE THERMOMETER
silicone grease affixes to surface

Made with range from 0 to 300° F calibrated in 5° increments, model 310 surface temperature thermometer is affixed to any flat surface by small amount of nonmelting silicone grease supplied with instrument. It can be used for measuring outside temperature of pipes, plastic dies and rubber molds; external temperatures for wall leakage of refrigerators, cold chambers and freezers; temperatures of journals and other bearings, electric motors and cylinder blocks; and for determining wall, ceiling and floor surface heat. Small magnetic clamp furnished with 2-in. thermometer holds it in place when application is to ferrous surfaces. Mirror on dial protects thermal element from external radiation. Made by **Pacific Transducer Co.**, 11921 P. Pico Blvd., Los Angeles 64, Calif.



For more details circle NED-9440 on enclosed inquiry slip

ATMOSPHERE GENERATOR
delivers 150 cu ft per hour for heat treating operations

Relatively large volumes of protective gases for protection of surfaces during heat treating operations are provided by this type M-5724-S Atmo-Gen atmosphere generator. Unit will deliver up to 150 cu ft of atmosphere per hour for following types of heat treating: clean nondecarburized hardening, dry cyaniding or carbonitriding, carburizing (carrier gas), copper and silver brazing, nitriding, sintering and bright annealing.

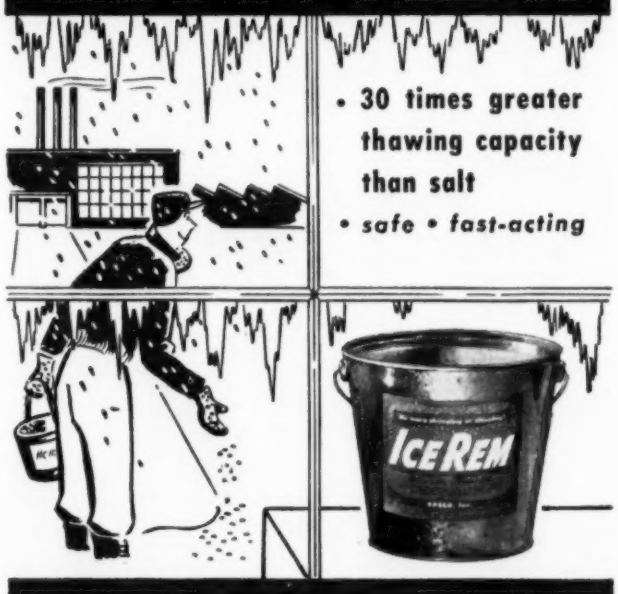
Equipment consists of ammonia cracker which is housed in a fabricated steel cabinet. Complete unit consists of an electric tube type furnace with automatic temperature control equipment, catalyst-filled alloy retort, necessary piping and flow regulation accessories. Made by **Hevi Duty Electric Co.**, P. O. Box 563, Milwaukee 1, Wis.

For more details circle NED-9441 on enclosed inquiry slip

DO YOU KNOW? Cost savings averaging 63 per cent have been obtained on gears for G-E oscillating fans by replacing three metal gears with molded nylon gears. Additional advantages of molded plastic gears are simplified assembly, excellent wear characteristics and quiet operation. Gears produced by General Electric Co., Chemical Div., 1 Plastics Ave., Pittsfield, Mass.

For more details circle NED-9442 on enclosed inquiry slip

MELTS SNOW! THAWS ICE! ICEREM
ice and snow melting chemical crystals



SPECO, Inc.
7308 ASSOCIATE AVE. • CLEVELAND 9, OHIO
"manufacturers of RUSTREM anti-rust paint"

For more details circle NED-9443 on enclosed inquiry slip

PRECISION BUILT SCREWS, RIVETS, NUTS, SPECIALS
Quick Dependable SERVICE

We are equipped to manufacture your special fasteners by the cold or upset process from a coil of wire, 1/16" dia. to 1/4" dia., to your finished product. Our modern up-to-date engineering department will be glad to assist you on your special fasteners. Send us your prints or samples for prompt quotations.

Territories open for experienced sales representatives with established screw products accounts.

APD
Aurora Precision Devices, Inc.
318 ANDERSON BLVD. GENEVA, ILL.

For more details circle NED-9444 on enclosed inquiry slip

New High-Performance FLOW METERS

Basic advances in the complete new line of Foxboro Orifice-Type Flow Meters now afford higher sustained accuracy with less maintenance than ever before obtainable.

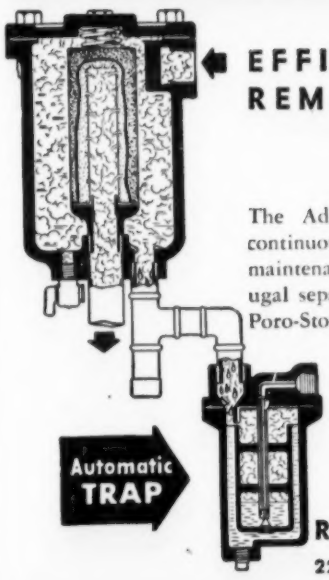
Advanced features include: new improved Segmental Drive Assembly, new friction-free Pressure Seal Bearing, new positive-seating, submerged Check Floats, new self-aligning U-Bend and Damping Plug Assembly, new compact Float Chamber, and complete interchangeability of round and rectangular case models.

Get complete details. Write for Bulletin 460. **The Foxboro Company, 13412 Neponset Ave., Foxboro, Mass., U. S. A.**

FOXBORO FLOW METERS
Reg. U. S. Pat. Off.

For more details circle NED-9445 on enclosed inquiry slip

Poro-Stone Filtration FOR COMPRESSED AIR



EFFICIENTLY REMOVES:
OIL, WATER
PIPE SCALE

The Adams *Poro-Stone* Filter gives continuous service without attention or maintenance expense. Efficient centrifugal separation *plus* diffusion through Poro-Stone, removes contamination completely without pressure loss. Automatic Trap eliminates attention and assures continuous and efficient filter operation. Write for complete data—Bulletin 176.

R. P. ADAMS CO., INC.
227 E. Park Dr., Buffalo 17, N. Y.

ADAMS Poro-Stone AIR FILTER

For more details circle NED-9446 on enclosed inquiry slip

"...as inevitable as death and taxes"

Sooner or later you will switch to MOLYBDENUM High Speed Steels

It is inevitable, and fortunately, it is easy, so why not change now? This has been going on, on a merit basis, for years.

Our booklet (below) gives you all the practical facts you need to make the switch. You can save money; you will help the national effort by conserving tungsten for uses in which it is really needed. Above all, you will get a tool which is every bit as good as a tungsten type—many people think better!

All the facts you need in this FREE BOOKLET

Climax Molybdenum Company
500 Fifth Avenue · New York City

HS-9

▲ For more details circle **NED-9447** on enclosed inquiry slip ▲

RIGHT IN YOUR OWN BACK YARD... BY WEST

Recognize the type? You'll find him everywhere. Wherever paper towel dispensers say, *"Help yourself, there's no limit to the use or abuse,"* of this necessary washroom service!

Paper towel costs can be reduced up to 40%. How? With WESTROLL Paper Towels and Dispensers.

WESTROLL Dispensers feed just enough toweling — *and no more!* For a thorough hand drying job. Yet, WESTROLL towel service is never miserly. A choice of 3 feed-speeds fits WESTROLL service to any type of washroom traffic.

WESTROLL Paper Towels are soft, absorbent, 'right' in wet strength. And 33⅓% more economical in regular use than interfold towels. Add to this saving, the extra uses found for 'easy-to-pilfer' towels; more frequent cabinet fillings; extra janitorial work. That's the real picture. As your WEST man can prove in a 10-minute demonstration.

WEST DISINFECTING Company
42-16 West St., Long Island City 1, N. Y.

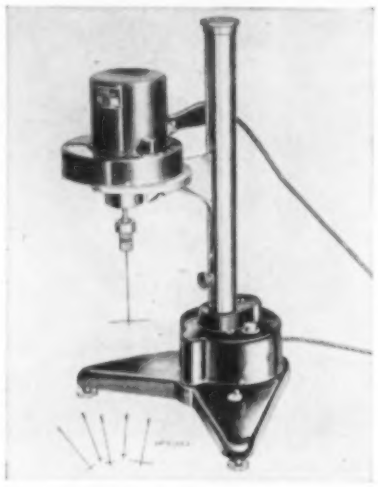
START SAVING . . .
the day you install WESTROLL Towels and Dispensers!

How about a WESTROLL demonstration?

Name_____
Company_____
Address_____
City_____ Zone_____ State_____
Dept. 16

▲ For more details circle **NED-9448** on enclosed inquiry slip ▲

VISCOMETER STANDS
aids in obtaining consistent data on materials with high thixotropy

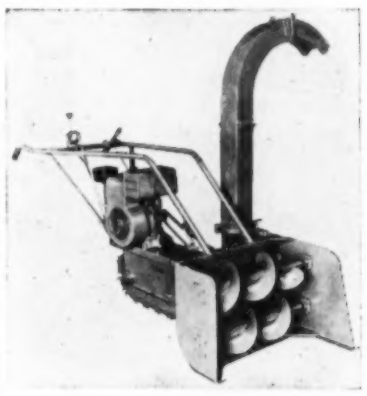


Substances considered unsuited for viscosity or consistency measurements with rotational viscometers can be accurately tested, studied and controlled by Helipath stand used with suitable Brookfield viscometer fitted with special bar type, T-shaped spindle. Measurements can be obtained in relative centipoise values of materials having characteristics similar to grease, putty, shaving cream, gelatin or wax.

As spindle is rotated by viscometer, Helipath stand lowers it at constant rate through test material. Resulting path traced by spindle's crosspiece is a helix. Torque required to rotate spindle is registered on dial and is converted to centipoise values. Made by **Brookfield Engineering Laboratories, Inc.,** 004 Porter St., Stoughton, Mass.

▲ For more details circle **NED-9449** on enclosed inquiry slip ▲

ROTARY SNOW PLOWS
self-contained and tractor-mounted units clear 30 and 72-in. paths

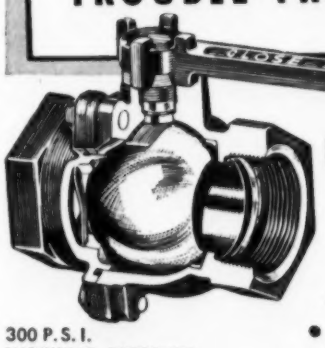


Featuring swiveling blower spout that blows snow in any desired direction, two rotary snow plows have blower blades which revolve at speed sufficient to prevent stalling of equipment. Self-contained Trio Snow Jet model (illustrated) makes 30-in. cut, is propelled by 37-in. long, 7½-in. wide track and power is supplied by 7.7 hp engine. High carbon steel grader blade across front scoops snow into two parallel 9-in. augers. Rotary fan blows snow through 6-ft spout.

Second model can be mounted on most farm type tractors or on truck or jeep where auxiliary gas engine can be employed to drive blower. Power take-off of tractor drives blower. It cleans a 6-ft path, blowing snow in direction controlled from cab or tractor seat. Slip clutch eliminates breakage when striking obstacles. Plow is capable of loading 5-cu yd truck in less than 1 minute from windrowed snow. Distributed by **Dahlman Equipment Sales Co.,** 502 N. Prior Ave., St. Paul 4, Minn.

▲ For more details circle **NED-9450** on enclosed inquiry slip ▲

ENGINEERED TO GIVE LONGER TROUBLE-FREE SERVICE



ROCKWOOD ball VALVES

300 P.S.I. WORKING PRESSURE

- *LEAK PROOF SERVICE*
- *FULL ROUND FLOW*
- *QUICK OPENING & CLOSING*

The *most dependable* and *efficient performing* Valve on the market. Every Rockwood Valve is designed and built to give you longer and more economical service.

The full *round* flow — leak proof service — quick opening and closing features of the Rockwood Ball Valve give you better and faster service with no maintenance. When you install a Rockwood Valve on the line, it does the job better.

For use in oil refineries, food, paper, textile, chemical and rubber plants, etc. Write for sizes and prices and for bulletin V-4.

Distributors in all principal cities.

ROCKWOOD SPRINKLER COMPANY
44 HARLOW ST. WORCESTER 5, MASS.

▲ For more details circle **NED-9451** on enclosed inquiry slip ▲

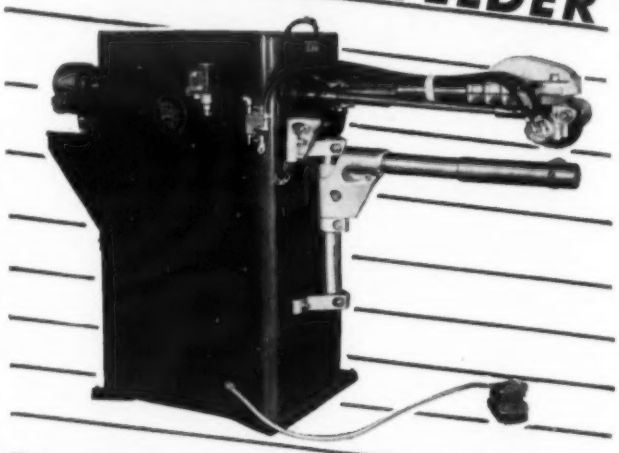
STEVENS
HORIZONTAL PLATING BARRELS

Stevens Barrels are made of the strongest possible combination of materials and are designed and engineered to give long, rugged service under even the most severe operating conditions. They offer high operating efficiency and exceptionally low maintenance costs.

Ask your Stevens representative about Stevens Plating Barrels for either acid or cyanide processes or write direct for full information to *Frederic B. Stevens, Inc., Detroit 16, Michigan.*

▲ For more details circle **NED-9452** on enclosed inquiry slip ▲

A New **BANNER SEAM WELDER**



Designed to Meet a Need for a Smaller Seam Welder
Here is a Banner Rocker Arm Seam Welder built to handle up to 20 gauge mild steel and lighter—a job usually requiring larger, more costly machines. This 50 KVA-Model has 24" throat with the upper wheel driven through shafts and pinion gears • Positive drive originates from a Graham vari-speed transmission • Shafts are securely mounted in floating bearings with universal joints. The machine has a lower horn for longitudinal welding, but is easily converted to circular seam welding by installing a special lower horn and rotating upper head • Transformer is fully water-cooled and rated at 100% duty cycle. Write for details.

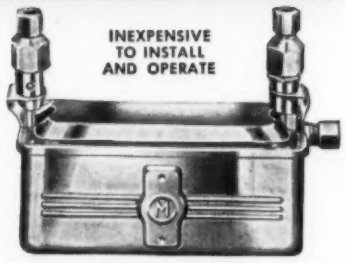
Banner
BANNER Manufacturing Co.
6814 NORTH 43rd STREET MILWAUKEE 9, WIS.

BANNER manufactures a complete line of Gun, Seam, Rocker Arm and larger Press Welders and Specials to 200 KVA. Inquiries Invited!

▲ For more details circle **NED-9453** on enclosed inquiry slip ▲

HUMIDITY — *where you need it — when you need it!*

New ATOMICK HUMIDIFIER



Does dry air raise hob with your production? . . . seriously interfere with the quality of your product?

. . . Then try our new Atomick Humidifier!—simplest, most practical method yet devised for adding necessary humidity to indoor atmospheres.

Compressed air operated, a one spray outlet atomizes up to 1¼ gals. of water per hr. The 4-head sprays handle 4 times as much. *With automatic control, you can maintain any humidity your work requires. Easily installed—simply suspend units from the supply lines.*

Write today for Maid-O'-Mist Bulletin 900 giving full details and prices.

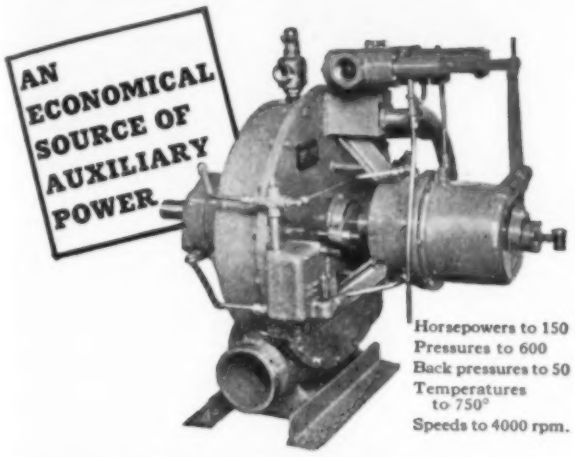
MAID-O'-MIST INC.
3201 N. PULASKI RD.
CHICAGO 41, ILLINOIS

AUTOMATIC HUMIDIFIERS FOR ALL TYPES OF HEATING SYSTEMS

▲ For more details circle **NED-9454** on enclosed inquiry slip ▲

Wing

AUXILIARY STEAM TURBINE



Used for half century in driving fans, pumps, generators and similar auxiliary equipment. Sturdy—Economical. Use of exhaust for heating or process. Gives "free power". Write for bulletin.

L. J. Wing Mfg. Co. 165 Vreeland Mills Rd., Linden, N.J.

For more details circle **NED-9455** on enclosed inquiry slip

PERECO
Electric Furnaces

The PERECO Melting Furnace (Model PF-1414) offers highly flexible and accurate temperature control.

FOR MELTING NON-FERROUS METALS

EXTRA BENEFITS are realized in an electric furnace design that permits a cleaner, quieter, more consistent operation. The PERECO furnace does this *24 hours a day* . . . every day! Designed for non-ferrous metal melting, the PF-1414 uses a pot 14 inches in diameter, 14 inches deep. Water capacity is 24 pounds, red brass working capacity 190 pounds, aluminum capacity 54 pounds. Operating range 700° F. to 2400° F. Power requirements: 23kw, 220 volts, 60 cycles, three phase. Over-all dimensions: 36" wide, 36" deep x 36" high. For additional information on operation and installation . . . write us today.

PERENY EQUIPMENT COLUMBUS OHIO

PERENY EQUIPMENT CO.

Dept. G, 893 Chambers Rd., Columbus 12, O.

PERECO also makes standard and special furnaces for most temperatures from 450° F. to 2700° F.

For more details circle **NED-9456** on enclosed inquiry slip

HEATING HIGHLIGHTS by PEE-DEE

Write for P-D Catalog 30-C-43

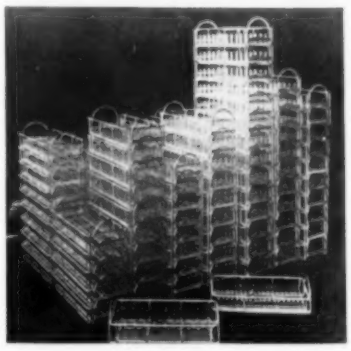
For more details circle **NED-9457** on enclosed inquiry slip

STORAGE TANK HEATER
pipe unit fits into 14½-in. manhole

Consisting of steel shell and coil assembly, this Hot-Spot bulk storage tank preheater is usable with 14½-in. manhole covers. Unit rests on bottom of tank, and suction pipe and inlet and outlet pipes for steam or hot water extend through manhole cover. Flow accumulator causes heavy oils or other liquids to flow over heated pipes before entering the suction line. Proper length inlet and outlet pipes to fit any size tank are available. Made by **Rempe Co.**, 362 N. Sacramento Blvd., Chicago 12, Ill.

For more details circle **NED-9458** on enclosed inquiry slip

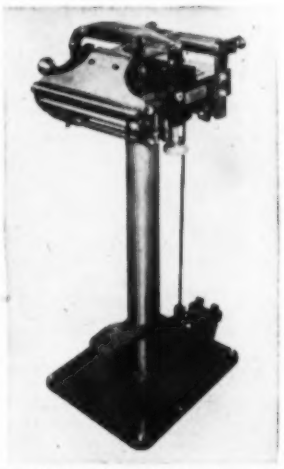
PARTS-CARRYING WIRE BASKETS
can be rubber or plastic coated



Consisting of metal frame and custom-made inserts that will handle any shape or material, Eezy-Stak wire baskets afford means of carrying precision parts through all phases of manufacturing, plating, drying, washing and machining. Baskets are designed to protect highly finished parts, decal and plated parts against abrasion and are available rubber or plastic coated. They are constructed of ⅛, ¼ and 5/16-in. steel wire; ¼, ½ and ¾-in. flat expanded metal, wire mesh or perforated metal. All are cadmium-plated, light in weight and stack easily. Made by **Wire & Iron Products, Inc.**, 1727 Sixteenth St., Detroit 16, Mich.

For more details circle **NED-9459** on enclosed inquiry slip

METAL FORMING MACHINE
forms sheet, strip and rod stock



Simple and complex shapes can be formed of sheet, strip and rod stock and small tubing by Bendit metal forming machine. It has bending capacity of 16-in. wide 18-gage mild steel or equivalent. Machine forms any radius from 1/32 to 5/8-in. and will make boxes up to 15 x 15 x 5 in. Low ductile materials and plated or painted metals can be handled without fracture or injury to surface where radius is sufficient to avoid cracking of paint. Interchangeable bending blades of soft steel are supplied for cutting to size required by job. Actual bending is performed by hardened and ground steel roller. Made by **Kilham Engineering, Inc.**, Plainville, Mass.

For more details circle **NED-9460** on enclosed inquiry slip

POLISHING PROBLEM ?

Switch to Black & Decker POWER!

B&D POLISHERS

2 models: 7" Standard and 7" Automatic, equipped with exclusive automatic polish feed.

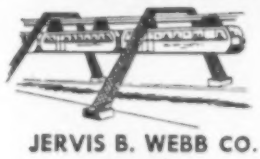
B&D POLISHERS speed up polishing of stainless steel, furniture, mirrors metal cabinets and many other industrial products, in production or maintenance work. They do finer, faster jobs because they give you such quality features as: B&D-built universal motors for dependable service; match-lapped, spline-mounted spiral bevel gears for smooth, quiet flow of power; perfect balance for easier handling. See your nearby B&D Distributor for a demonstration. Write for free catalog to: THE BLACK & DECKER MFG. CO., 662 Pennsylvania Ave., Towson 4, Md.

LEADING DISTRIBUTORS EVERYWHERE SELL

Black & Decker PORTABLE ELECTRIC TOOLS

For more details circle **NED-9461** on enclosed inquiry slip

The FIRST monorail



Development of the unique single track railroad car, balanced by gyroscopes, was started by the Englishman Louis Brennan in 1896. Never in wide use, it nonetheless led to many further applications based upon the principles thus developed.

JERVIS B. WEBB CO. was the FIRST to develop TOWVEYOR SYSTEMS

under-floor type towing conveyors

This continuous chain conveyor runs in a steel slot below the floor. There is nothing to obstruct. A simple towing pin device is attached to any standard 4-wheel truck or trailer, 2-wheel truck with dolly, and operator either engages or disengages by lowering or raising the pin. When the pin is dropped into the slot, the trolley attached to the Webb Drop Forged Rivetless Chain picks up the load automatically. This original Webb development—The Towveyor—offers great speed and efficiency for handling boxes, packages, barrels, tote boxes, parts, etc. Loading and unloading can be done at any point. The Towveyor System is flexible—trucks may be added, disengaged or side tracked, as desired.

CONVEYOR ENGINEERS AND MANUFACTURERS
JERVIS B. WEBB COMPANY
8921 ALPINE AVE. DETROIT 4, MICH.
OFFICES IN PRINCIPAL CITIES

For more details circle **NED-9462** on enclosed inquiry slip

It might be NEWS TO YOU

Only PRESTOLE builds ALL

SHEET METAL NUTS
With a 360° Grip

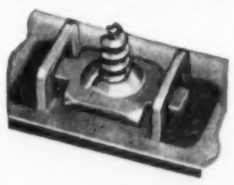
"J" NUT

"J" Nuts—to fit all metal from .020 to .090 thick. Sizes from 6-32 to 5/16 machine and sheet metal screws. Made in all finishes. Same availability on "U" Nuts as "J". All with the conical dome formed with a full 360° locking grip around screw.

HEX-LOX

Hex-Lox—the Hex nut with both the 360° conical thread grip and the side-arm thread grip. Weighs 70% less than conventional lock nuts. Has highest installation torque, prevailing torque, and back off torque. Excells in vibration tests and tensile strength. Made in 5 screw sizes from 6-32 to 1/4-20. SAE-1060 steel .016 to .020 thickness.

CAGE NUT



One-Piece Cage Nuts — combines both nut and cage in one piece. No prongs. Full 360° unbreakable thread grip. Saves material, cuts parts in half, saves handling and assembly time. Made of SAE-1060 steel in all popular sizes.

PUSH ON

Push-Ons—for smooth studs. The PRESTOLE push-on clover leaf nut has also become very popular because of its 4 point spring tension bite on smoothest studs, whether metal, fibre or plastic. All sizes and finishes.

The growing demand for more PRESTOLE fasteners is due largely to its unique, precision engineered conical grip that bites a full 360° into the root of the screw thread. Preferred because of their greater holding power. Hundreds of millions in use on automobiles, trucks, refrigerators, stoves, heaters, radio, TV and scores of other products. In writing for samples, kindly send blueprints or details of application.

Over 1,000 Shapes and Sizes

FAMOUS FASTENERS

PRESTOLE CORPORATION

1330 MIAMI ST. • TOLEDO 5, OHIO

For more details circle **NED-9463** on enclosed inquiry slip

DUPOR No. 46

U.S.B. of M. APPROVED RESPIRATOR FOR TYPE "A" AND LEAD DUSTS

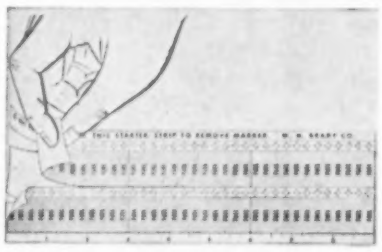
More than 46 sq. in. filtration area. Soft rubber face mask. U.S.B. of M. Approval BM-2124 for LEAD Dusts and ALL other toxic or poisonous dusts as well as Type A (Pneumoconiosis or Silicosis producing dusts). Unit has exclusive controlled breathing valves to guard against stale air. Maximum visibility—no interference with goggles or glasses.

Sample sent $3.25 pp

H. S. COVER
South Bend, Ind.

For more details circle NED-9464 on enclosed inquiry slip

PRESSURE SENSITIVE MARKER identifies aircraft fluid lines

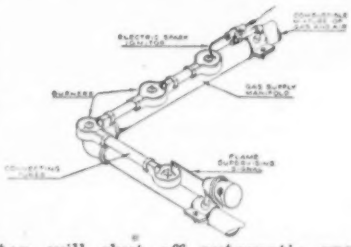


Made of cotton cloth coated with silicone plastic for protection against dirt, grease and moisture, self-sticking tape markers afford quick method of identifying contents or functions of aircraft fluid lines. Markers come mounted on dispenser cards and are removed easily by starter-strip. They conform to Air Force-Navy Aeronautical Standard AND10375 which specifies use of both color code and geometric symbols. Special markers with any wording, color, size or symbol and with various tape constructions can be made to order. Dispenser card has 9-in. rule printed along bottom edge to simplify cutting to desired length. Made by **W. H. Brady Co.**, Dept. 334, 1602 E. Spring St., Chippewa Falls, Wis.

For more details circle NED-9467 on enclosed inquiry slip

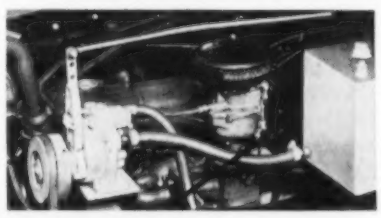
GAS BURNER IGNITION SYSTEM electric spark lights gas

Radiant-Heat gas burners, arranged in series upon gas supply manifold, can be ignited safely at one end by an electric spark when manual pushbutton is depressed. Closed circuit also energizes automatic gas supply valve at same time, permitting gas to reach all burners through gas supply manifold and connecting tubes. Flame supervising device, located at last burner at end opposite spark ignitor, will shut off automatic gas supply valve if its contacts are not closed by flame in ignited burner. If operation is normal, release of pushbutton keeps automatic gas supply valve energized. Made by **Burdett Mfg. Co.**, Dept. NED, 3433 W. Madison St., Chicago 24, Ill.



For more details circle NED-9468 on enclosed inquiry slip

HYDRAULIC SNOWPLOW LIFT controlled from push-button on dash



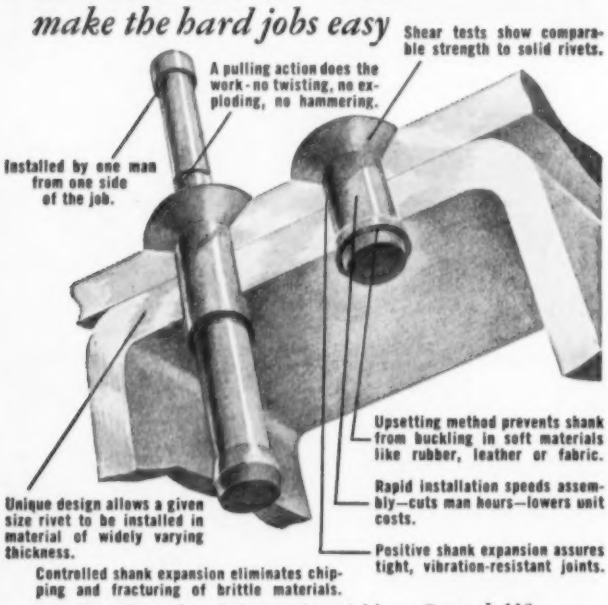
Snowplowing over car-tracks, in alleys, parking yards or other confined areas is facilitated with hydraulic lift which can easily be installed on truck-mounted snowplows. Lift is actuated by hydraulic pump operated by engine fan belt and reacts instantly from push-button control on dash panel. Pump is equipped with clutch for engaging power when needed. Clutch pump is also available separately to provide remote control hydraulic power on any fan belt truck, loader, dump truck or mower. Made by **National Lift Co.**, 227 Madison St., Waukesha, Wis.

For more details circle NED-9469 on enclosed inquiry slip

Here's why

CHERRY RIVETS

make the hard jobs easy



For Complete Information Address Dept. L-113

Cherry Rivet COMPANY — A DIVISION OF Townsend COMPANY • EST. 1816

231 WINSTON STREET, LOS ANGELES 13, CALIFORNIA

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Job-Proven

PLASTIC ROCK FLOORS

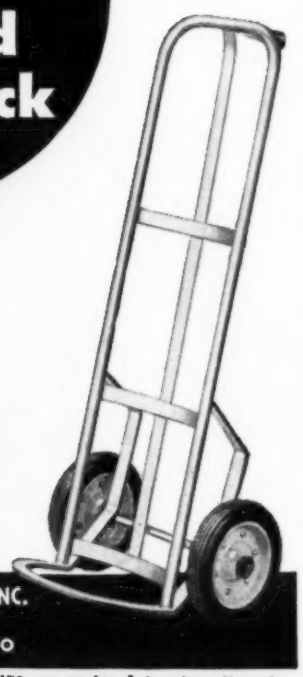
Save priceless production time! Renew old floors over the week-end to last for many years. Heavy traffic only packs denser. Non-skid, noiseless, spark-proof; bonds and feather-edges perfectly on concrete, wood or steel. Each Plastic Rock unit is complete; nothing else to buy; no guesswork; maintenance crew or contractor can apply.

Get free Bulletin N-12.

UNITED LABORATORIES, INC.
16804 Euclid Avenue, Cleveland 12, Ohio
FLOORING • ROOFING • SPECIAL PAINTS
Field Representatives Coast to Coast

For more details circle NED-9466 on enclosed inquiry slip

Buschman makes an **all 'round good truck** *with Features users prefer*



- Light weight
- Easy to handle
- Low in cost
- Sturdily Built
- Double Welded for greater strength
- One or two handles
- Open or solid Toe
- Improved Curb Slides
- Choice of wheels

Write for literature

THE E. W. BUSCHMAN CO., INC.
STATION W.
CINCINNATI 32, OHIO

For more details circle NED-9470 on enclosed inquiry slip

DESIGNED— for quiet, dependable operation

SEALMASTER BALL BEARING UNITS

- Pillow Blocks
- Take-Up Units
- Flange Units
- Cartridge Units
- Flange Cartridge Units

Self-Aligning—Exclusive design permits shaft misalignment in any direction, without distortion of seal.

Permanent Seal—Patented centrifugal seals exclude dirt and retain lubricant.

Pre-Lubricated—SealMasters are shipped with lubricant sealed in—ready to use.

No Housing Wear—Patented locking pin positions unit for relubrication and prevents rotation of outer race in housing.

Write for Catalog 845

BEARING DIVISION
STEPHEN S-ADAMSON MFG. CO.
12 RIDGEWAY AVENUE, AURORA, ILLINOIS · LOS ANGELES, CALIF. · BELLEVILLE, ONT.

Factory Representatives and Dealers in All Principal Cities

For more details circle NED-9471 on enclosed inquiry slip

easy-to-handle ROTOR CHIPPERS "PAID OFF" in 45 days

JOB: Removing fins from press frame casting. Former chippers weighed 13½ lbs. . . . were slow-hitting, hard to handle.

SOLUTION: Rotor Application Engineer recommended new Model C-15H Chippers. Weigh only 11½ lbs. Have plenty of high-speed sock.

RESULTS: Stepped up production 65%. "Paid off" new Rotor Chippers in 45 days.

Unusual? Not at all! We will gladly survey your plant for similar benefits. Why not call us in?

Ask for Catalogue No. 37. AIR O'TOOL

THE ROTOR TOOL CO.
CLEVELAND, OHIO

For more details circle NED-9472 on enclosed inquiry slip

Wherever it's HOT specify Sicon

NEW IMPROVED SILICONE-BASE HEAT-RESISTANT FINISH

Protects Stewart Warner's New Saf-Aire Wall Furnace

Quality finish specifications for this heating unit called for a coating that would stand 500° and still retain its color and gloss—a temperature far above that incurred in normal operation. Ordinary heat resistant coatings failed. SICON *Ivory* and SICON *Beige* worked perfectly...just as SICON has solved so many other finish problems. *Write for dynamic proof of SICON'S amazing stability under heat! New Brochure now ready.*

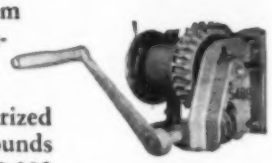
Manufactured exclusively by
MIDLAND Industrial Finishes
Waukegan, Ill.
ENAMELS · SYNTHETICS · LACQUERS · VARNISHES

For more details circle NED-9473 on enclosed inquiry slip

Style K-2 Motor Winch

Lift or Pull with an S-A WINCH

Don't take skilled men from productive work to do common labor. *One man* with an S-A Winch can outperform a large gang. Motorized units hoist up to 6,000 pounds . . . hand types lift 500 to 2,000 pounds. *Save on all handling costs!*


No. 28 Hand Winch

Get the facts. Write for BULLETIN 340

STEPHEN S-ADAMSON MFG. CO.

Tellevel—Bin Level Controls · Car Loaders · SealMaster Ball Bearings · Car Pullers · Winches · Saco Speed Reducers

12 RIDGEWAY AVE., AURORA, ILLINOIS

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How to save Labor and Money by Centralizing Lubrication

FOR more than 20 years, Farval has been saving manpower and money for users. Through efficient, dependable lubrication of machines and industrial equipment of all kinds, Farval saves 4 ways: It saves oiling labor, it saves lubricant, it reduces bearing expense, it eliminates down time.

The Farval System is a positive mechanical method of delivering oil or grease under pressure to a group of bearings from one Central Station, in exact quantities, as often as desired. It consists of a central pumping unit, two main supply lines and a measuring valve for each bearing.

Bulletin 25 gives you the facts and figures to apply to your own lubrication problems. The Farval Corporation, 3283 East 80th St., Cleveland 4, Ohio.

Write for FREE Bulletin 25

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WITH SELECTIVE SLIDING GEAR TRANSMISSIONS IN 3, 4, 6 and 9 SPEEDS . . . . . .

The TURNER UNI-DRIVE CO. is the leader in the motorizing of cone drive type machine tools. The two new multi-drive power units, 25 & 50 HP are a case in point. They are sturdy, dependable and answer the problems of power drives involving speed reduction with multiple speeds. A flick of the wrist is all that's necessary to shift to any pre-determined speed. These machines can be assembled with different gear ratios to meet specific requirements. 4-speed models 30 to 50 HP.

TURNER UNI-DRIVE CO.
3420 Terrace St., Kansas City 8, Mo.

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WALL CALENDAR features large size dates

Dates large enough to be seen across the room are incorporated in Post 1952 weekly wall calendar. It has calendars for every week spirally bound to large illustration at top. Each of 52 pages has full calendar for preceding, current and future month. Also included is check-up list for reordering engineering supplies and equipment. Available free of charge from **Frederick Post Co.**, Dept. Z, P. O. Box 803, Chicago 90, Ill.

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RETAINING RINGS dispensed and applied by one hand

Time and motions involved in selecting and applying retaining rings can be considerably reduced by use of open type rings which are dispensed from base one at a time. Dispensing and use of hand application tool is one hand operation. Carbon spring steel rings provide shoulders on grooved circular shafts. They support heavy thrust loads and withstand vibrations without displacement. Reuse is possible without affecting resiliency of rings, made for shaft diameters from ⅛ to ¾-in. Made by **Industrial Retaining Ring Co.**, 8 W. Sidney Ave., Mt. Vernon 7, N. Y.

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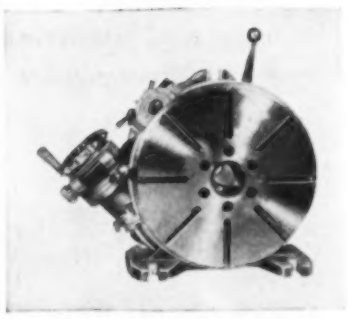
PRECISION INDEXING TABLE scale is read through telescope



Usable in either vertical or horizontal position, indexing table provides high accuracy in use with milling machines, jig borers and die sinkers. Precision engraved glass degree scale is observed at normal viewing distance through compact telescope which, in conjunction with circular dial, allows readings accurate to 0.0005-in. at periphery of 12-in. circle. Turn table is supported at periphery about its entire circumference. Forged spindle is mounted on preloaded taper roller-bearing. Clutch allows hand rotation of table for positioning. Locking spindle to prevent rotation does not disturb table setting. Made by **F. T. Griswold Mfg. Co.**, 0305 W. Lancaster Ave., Wayne, Pa.

▲ For more details circle NED-9480 on enclosed inquiry slip ▲

MUELLER BRASS CO.

600 series
a better bearing
bronze containing
no hard-to-get tin

Four typical parts forged from Mueller Brass Co. "600" series Bearing Bronze

If you use gears, connecting rods or other parts of bearing metal in your products, it will pay you to investigate Mueller Brass Co. "600" series, a forgeable bronze that *contains no critical tin.* This bearing metal outperforms phosphor bronze and other bearing metals and will save you money in your applications. "600" series alloys can be forged into relatively complicated shapes . . . have low coefficient of friction . . . high resistance to corrosion and a tensile strength 2½ times greater than cast phosphor bronzes. There is a "600" series alloy with the properties to fit your bearing metal needs . . . write today for further facts.

MUELLER BRASS CO. PORT HURON 26, MICHIGAN

64-B

▲ For more details circle NED-9481 on enclosed inquiry slip ▲

Calling all users of Speed Reducers!

Get the new **Cleveland Book FREE**

Bulletin 130 gives rating tables, dimensions and other data you need in selecting the right sizes in standard worm-gear speed reducers. Ask for your copy.

New bulletins on other types of Cleveland worm gear drives and worm-gear sets also available. Outline your needs. The Cleveland Worm & Gear Co., 3283 E. 80th St., Cleveland 4, Ohio.

CLEVELAND Worm Gear Speed Reducers

▲ For more details circle NED-9482 on enclosed inquiry slip ▲

CUT HANDLING COSTS

...move materials overhead

This fast, heavy duty METEOR Electric Hoist can be an *earning* investment...a time and money saver in any plant through safer and more efficient handling of materials.

Lifting speeds from 18 to 60 feet per minute. Capacities from ½ to 5 ton.

SINGLE AND TWO SPEED MODELS, low headroom, balanced design, aeroplane cooling, thermal protection...these and other features are fully illustrated in Bulletin 142 sent on request.

CHISHOLM-MOORE HOIST CORPORATION
(Affiliated with Columbus McKinnon Chain Corporation)
GENERAL OFFICES AND FACTORIES: TONAWANDA, N. Y.
Sales Offices: New York • Chicago • Cleveland • Distributors Everywhere

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FOR SAFE HANDLING *of corrosive liquids*

SAFE, FAST ACID PUMP—For carboys, drums and barrels. A smooth flow starts quickly . . . no dangerous spurts or splashes. Lifting and tilting eliminated. No dangerous pressure build-up, flow can be stopped instantly.

TYPE F-H $14.50

BIG, NEW, SAFETY CATALOG

48 pages; hundreds of safety items completely described and illustrated. Price list included.

SENT FREE ON REQUEST

All items shipped direct from Philadelphia.

GENERAL SCIENTIFIC EQUIPMENT CO.
2701 W. Huntingdon Street
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A DEPENDABLE GUIDE TO SAFETY GES

SAFETY EQUIPMENT FOR EVERY HAZARD

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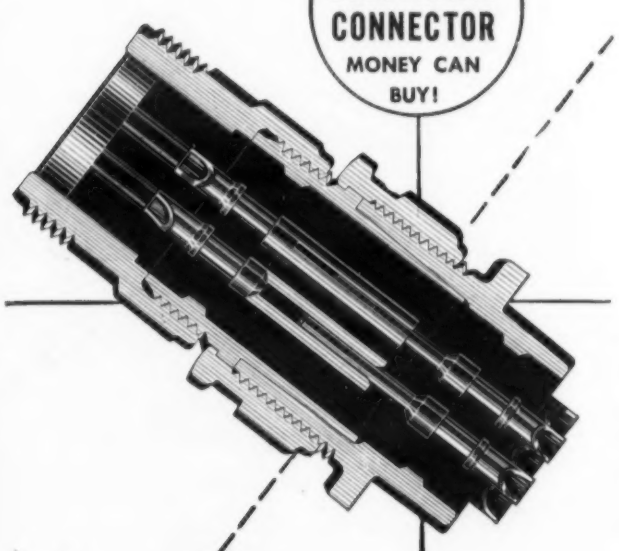
If you want REAL smoothness greater load capacity, greater compactness or lighter weight in your drive, we suggest you look into Cone-Drive DOUBLE-enveloping gears and reducers—the gears with MORE TEETH IN CONTACT and MORE CONTACT PER TOOTH

CONE-DRIVE GEARS
Division, Michigan Tool Company
7171 E. McNichols Road • Detroit 12, Michigan
DOUBLE ENVELOPING GEAR SETS & SPEED REDUCERS
Ask for Bulletin #789-50

For more details circle NED-9485 on enclosed inquiry slip

The Finest ELECTRICAL CONNECTOR MONEY CAN BUY!



SCINFLEX

ASSURES YOU THE LOWEST VOLTAGE DROP IN THE INDUSTRY!

When operating conditions demand an electrical connector that will stand up under the most rugged requirements, always choose Bendix Scinflex Electrical Connectors. The insert material, an exclusive Bendix development, is one of our contributions to the electrical connector industry. The dielectric strength remains well above extreme requirements within the temperature range of −67°F to +275°F. It makes possible a design increasing resistance to flashover and creepage. It withstands maximum conditions of current and voltage without breakdown. But that is only part of the story. It's also the reason why they are vibration-proof and moisture-proof. So, naturally, it pays to specify Bendix Scinflex Connectors and get this extra protection. Our sales department will be glad to furnish complete information on request.

• Moisture-Proof • Radio Quiet • Single Piece Inserts • Vibration-Proof • Light Weight • High Insulation Resistance • High Resistance to Fuels and Oils • Fungus Resistant • Easy Assembly and Disassembly • Fewer Parts than any other Connector • No additional solder required.

BENDIX SCINFLEX
ELECTRICAL CONNECTORS

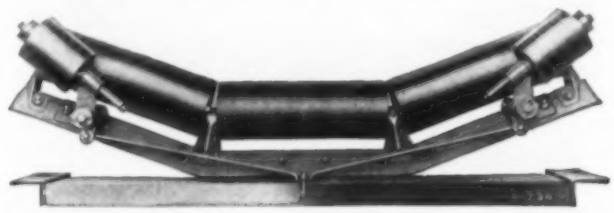
Bendix
SCINTILLA MAGNETO DIVISION of Bendix AVIATION CORPORATION
SIDNEY, NEW YORK
Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.

FACTORY BRANCH OFFICES: 118 E. Providencia Ave., Burbank, Calif. • Stephenson Bldg., 6560 Cass Ave., Detroit 2, Michigan • Brouwer Bldg., 176 W. Wisconsin Avenue, Milwaukee, Wisconsin • 582 Market Street, San Francisco 4, California

For more details circle NED-9486 on enclosed inquiry slip

CONVEYOR BELT CARRIERS
return rollers keep belt centered

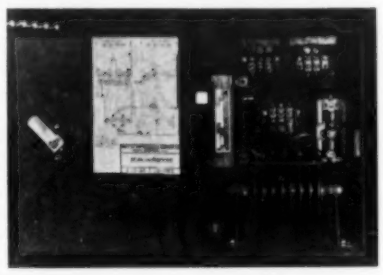
Conveyor belt misalignment or off-center loading is quickly corrected by these special-duty belt training carriers and return rollers. Training rollers respond instantly to



any shift of belt from dead center by angling the carrier into direction of travel. This returns belt to center and carrier then resumes normal position. Edge wear of belt is negligible and serious belt damage due to improper training is minimized. Units are efficient when installed at intervals of 50 to 100 ft. Made by **Stephens-Adamson Mfg. Co.**, 12 Ridgeway Ave., Aurora, Ill.

For more details circle NED-9487 on enclosed inquiry slip

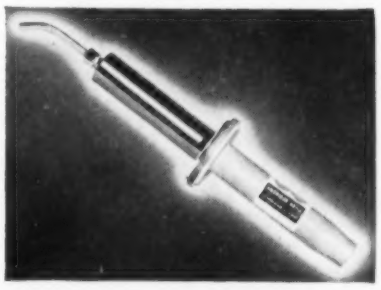
ELECTRONIC SCANNING SYSTEM
monitors 270 temperature points



Recording only those temperatures which deviate beyond a preset limit, this electronic scanning system automatically and continuously monitors up to 270 separate processing temperature points. It includes an audible alarm that permits immediate correction of excess temperatures. System is applicable to steam generating stations; chemical, petroleum and other processing industries; and manufacture of various products where temperatures must be maintained at specific levels to eliminate defects in product. Made by **Minneapolis-Honeywell Regulator Co.**, Brown Instruments Div., Wayne & Roberts Aves., Philadelphia 44, Pa.

For more details circle NED-9488 on enclosed inquiry slip

THERMOPLASTIC WELDING GUNS
gas and electrically heated types



Welding of polyethylene, hard polyvinyl chloride and other thermoplastic materials is possible with two types of welding guns operating on identical principle. Both gas and electrically heated models utilize a stream of inert gas such as nitrogen or compressed air passing at low pressure through heating element and leaving gun through nozzle. Temperature of welding gas stream leaving gun can be varied from 300 to 700° F. Made by **American Agile Corp.**, Plastics Div., Dept. E, 5806 Hough Ave., Cleveland 3, O.

For more details circle NED-9489 on enclosed inquiry slip

Cost conscious?

try Accurate Springs

Cost conscious purchasing agents, engineers and production men examining their sources of supply will do well to consider Accurate as a source for springs, wire forms and small stampings. We at Accurate have an enviable record of saving money for our customers. Our production "know-how" is backed by a modern plant equipped with the very latest cost-cutting springmaking machines to produce uniformly accurate components for your product.

We would welcome the opportunity to show you what we have done for others and what we can do for you. Give us a ring or write us today.

Ask for the Accurate Spring Handbook.

ACCURATE SPRING MFG. CO.
3805 W. LAKE STREET CHICAGO 24, ILLINOIS

Springs Accurate Springs Wire Forms • Stampings

For more details circle NED-9490 on enclosed inquiry slip

The Colson Universal Drum Truck

for fast, safe handling of drums and barrels

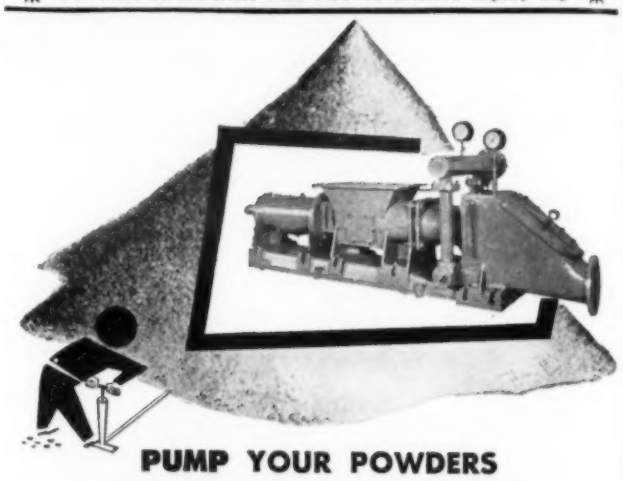
One man, with the COLSON universal drum truck, easily does the work of two. It locks any size container, lifts it easily and carries it with the weight evenly balanced over the wheels.

Other work-saving COLSON equipment: hand trucks, platform trucks, Lift-Jack systems, wheels and casters to meet every application. Write us or consult your phone book for the COLSON office near you.

Write Today for Free 56 Page Catalog.

THE COLSON CORPORATION
ELYRIA, OHIO
CASTERS • LIFT-JACKS • INDUSTRIAL TRUCKS

For more details circle NED-9491 on enclosed inquiry slip



PUMP YOUR POWDERS
with a FULLER-KINYON SYSTEM!

Powders that can be aerated flow like water—anywhere in a plant—when they're pumped by Fuller-Kinyon. Such dry, pulverized materials can be automatically distributed to any desired number of bins in sequence. No dust nuisance . . . no waste . . . safe . . . sanitary . . . low power . . . low maintenance. If you have a bulk dry material handling operation, it will pay you to ask Fuller about it. Write for further information.

P-122

FULLER COMPANY, Catasauqua, Pennsylvania
7256 Chicago 3—120 So. LaSalle St.
San Francisco 4—420 Chancery Bldg.

fuller
DRY MATERIAL CONVEYING SYSTEMS AND COOLERS • COMPRESSORS AND VACUUM PUMPS • FEEDERS AND ASSOCIATED EQUIPMENT

For more details circle NED-9492 on enclosed inquiry slip

EVEREDE
BORING BAR TOOL HOLDERS
speed up Precision boring BECAUSE . . .

GREATER . . .
UTILITY
FLEXIBILITY
VERSATILITY

ON BENCH LATHES & ENGINE LATHES
ADJUSTABLE to various types and sizes of LATHES

. . . made possible by EveredE adjustment of center-height of boring bars. Makes these holders step up precision boring production at important savings in expanded capacity, wider use of critical existing equipment and man-power. That's why EveredE Boring Bar Holders are gaining evermore prominence in leading production plants. Start getting EveredE benefits today . . . send for complete details.

1 NO. 1 BENCH LATHE TOOL HOLDER: Fits lathes from 7 through 9 in. swing. Uses bars with 3/8" shanks. Used exclusively on precision bench lathes.

2 NO. 2 ENGINE LATHE TOOL HOLDER: Fits engine lathes from 8 through 12 in. swing. Max. bar Cap. 3/4" diam. Height of holder, lowest 1-1/6"; highest, 1 3/4".

3 NO. 3 ENGINE LATHE TOOL HOLDER: Fits lathes from 12 through 24 in. Max. bar Cap. 1" diam. Height of holder, lowest, 1 1/2"; highest, 2 3/8".

★ EVER-HORIZONTAL POSITIONING. Regardless of lathe size. (Within negligible limits.)

★ EVER-RIGID and DURABLE . . . Made of casehardened alloy steel.

★ EVER-HANDY TOOL POST BLOCK . . . secured by chain to holder.

(NOTE: "Height of Holder" is distance from bottom of holder to center of lathe.)

LARGER BARRELS: furnished for No. 3 Holder accommodating bar sizes from 1 1/8" through 1 1/2"

EVEREDE Tool Co.
2000 North Parkside Avenue Chicago 39, Illinois

For more details circle NED-9493 on enclosed inquiry slip

UNIVERSAL INDUSTRIAL CONVEYOR

Low First Cost . . . .
Low Maintenance

- Removable sides to permit handling large cartons or parts.
- Motor totally enclosed inside conveyor body easily accessible through removable ventilating panel.
- Elevates to desired height with simple hoisting mechanism.
- Driven by means of roller chain to roller bearing equipped gear box.
- Main drive shaft and idler pulley operate on double-sealed ball bearing.
- Standard belt width, 12 inches. Other widths can be furnished to meet your requirements.
- Belt speed, 74 F.P.M.—adjustable if desired.

INDUSTRIAL ENGINEERING & MFG. CO., INC.
BRIMFIELD, INDIANA, U.S.A.

For more details circle **NED-9494** on enclosed inquiry slip

HOMER MAGNETIC SEPARATORS

Cut Handling and Sorting Costs!

Homer Magnetic Drum Type Separators are saving valuable hours every day in many leading industries by eliminating tedious hand sorting of ferrous from non-ferrous materials. They are used in sorting plastic pieces from ferrous parts; for removing abrasives from finished ferrous tumbling barrel operations and for sorting ferrous from non-ferrous scrap metal. There are many other industrial applications where Homer Magnetic Drum Type Separators can help to cut down costly, time consuming operations. If you have such an application—write or wire us today—there is no obligation for our recommendation.

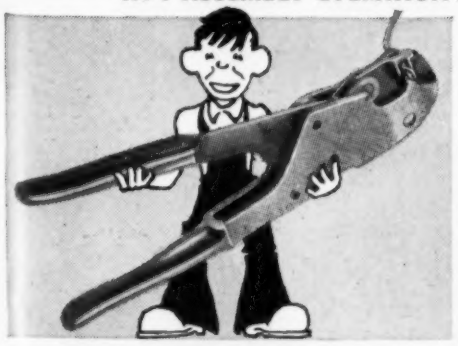
The HOMER MANUFACTURING CO., Inc.
Dept. 1-25 LIMA, OHIO

Producers of Magnetic Separator Equipment Since 1923

For more details circle **NED-9495** on enclosed inquiry slip

This Combination Gives You 3 PLUS-Performance Features

IN 1 ASSEMBLY OPERATION . . .



THERE'S A T&B ENGINEERED PRODUCT for every wiring job in the complete T & B line of fittings for all conductors and raceways

Just close the jaws of these new SHURE STAKE Tools* on T & B Self-Insulated Sta-Kon Terminals†. In a single operation, you get: (1) an electrically sound, mechanically strong joint; (2) firm gripping of wire insulation; (3) terminal insulation that prevents shorts—without an extra insulating operation.

Tool handles are color-coded to conform to color-coding of terminal insulation. Three designs meet all assembly requirements: WT-143 for RA and RB terminals; WT-144 for RC; WT-141, adjustable for all three sizes. Write for details.

Engineered Right—Distributed Right. These new SHURE STAKE Tools are typical of all T & B products designed for outstanding performance at lowest cost. Furnished 100% through T & B distributors under the T & B Plan.

*Patents Pending †Patented

THE THOMAS & BETTS CO.
INCORPORATED
24 BUTLER STREET, ELIZABETH 1, NEW JERSEY
Manufacturers of Electrical Fittings since 1898
Originators of self-insulated solderless terminals in 1935

For more details circle **NED-9496** on enclosed inquiry slip

CONSTANT TORQUE LOCKNUT

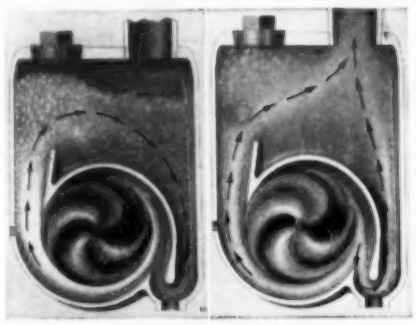
retains locking grip after removal

Made with flange and tapered ribbed barrel, Con-Torq constant torque locknut is heat treated to spring temper. When applied to bolt or screw, nut withstands vibration, moisture, extremes of heat and cold and other conditions which tend to shake fasteners loose. Of one-piece construction, it does not damage threads and is applied with wrench no larger than nut itself. Original locking grip is retained after countless removals. Made by **E. A. Bessom Corp.**, 120 Margin St., Salem, Mass.

For more details circle **NED-9497** on enclosed inquiry slip

SELF-PRIMING MOTOR-PUMP

built in 1/4 to 25-hp sizes

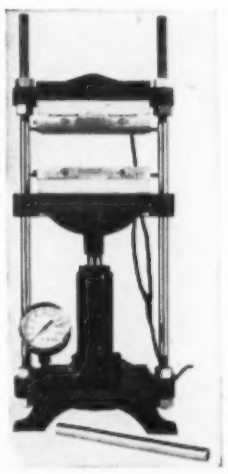


Intended for pumping applications under suction lift where presence of air or vapor make impractical the use of centrifugal pumps, line of self-priming Motorpumps includes sizes from 1/4 to 25 hp, with capacities up to 800 gpm and heads up to 180 ft. Standard models utilize cast iron casings with bronze impeller and are driven by standard motors. Units are also available mounted on ball bearing-equipped cradles to be driven through coupling by motor, engine or turbine. Made by **Ingersoll-Rand Co.**, Dept. CAM, 11 Broadway, New York 4, N. Y.

For more details circle **NED-9498** on enclosed inquiry slip

HYDRAULIC LABORATORY PRESS

44-sq in. platens provide 1000 w



Operations calling for application of moderate pressure with heat can be served with 3-ton hydraulic Econ-O-Press. Manually operated mechanism provides total force of 6000 lb in 6-in. stroke. Maximum adjustable daylight opening is 8¾ in. Electrically heated, 44-sq in. platens supply 1000 w and are fitted with individual bimetallic thermostats adjustable to 400° F with a differential of plus or minus 5° F. Width between hard chrome plated columns is 9½ in. and height is 30½ in. Press finish is black wrinkle enamel. Units are available for either 115 or 230 v ac operation. Made by **Wabash Metal Products Co.**, Hydraulics Div., Dept. NED, 1568 Morris St., Wabash, Ind.

For more details circle **NED-9499** on enclosed inquiry slip

WRIGHT *Again!*

***now...new* FRAME "B"**

Speedway

- Rugged construction, yet light and portable, the new **Wright Frame "B" Speedway Electric Hoists** are designed for service in practically any location. Ideally balanced for hook suspension. • Ball and roller bearings, alloy steel gears, swaged cable fittings, heavy duty motor, silver contact controls are some of the features which assure long life and low maintenance cost. Capacities from 250 lbs. to 1000 lbs.

Write for literature.

ACCO York, Pa., Chicago, Denver, Detroit, New York, Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

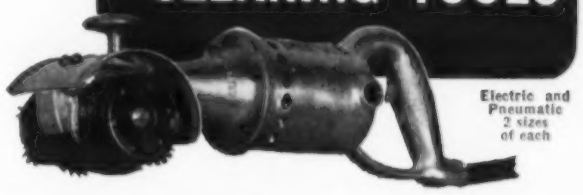
WRIGHT HOIST DIVISION
AMERICAN CHAIN & CABLE
TRADE MARK
In Business for Your Safety

For more details circle **NED-9500** on enclosed inquiry slip

Remove SCALE, PAINT, RUST Quickly . . . Easily

USE AURAND CLEANING TOOLS

For any hard metal or stone surface—iron—steel—brick—concrete—etc.



Electric and Pneumatic 2 sizes of each

It's easy to remove paint, scale, rust and other accumulations with AURAND Cleaning Tools. Powered rotary chipping does a thorough cleaning job in less time. No special skill required. Even depth surface is assured by an adjustable shoe control. Cutter heads are renewable.

For further information, address Dept. 14

AURAND MFG. & EQUIP. CO.
2643 Colerain Avenue • CINCINNATI, OHIO

For more details circle **NED-9501** on enclosed inquiry slip

See the new Heavy Duty No. 500 Speed Way ½" Speed Drill

- **All Ball Bearing.**
- **Wide-face Helical Gears**—precision hobbed from nickel alloy steel.
- **Integrally Die Cast Aluminum Body and Frame**—all structural and supporting members die-cast-in.
- **More Powerful Heavy Duty Motor** 5½ Amp. input and ½ H.P. output.
- **No. 34B Jacobs Geared Chuck and finest Electrical Equipment.**
- **Compact, Powerful, Light**—weighs only 10 lbs.

WRITE FOR CATALOG

SPEEDWAY MFG. CO.
1892 So. 52nd Avenue, Cicero 50, Illinois

For more details circle **NED-9502** on enclosed inquiry slip

Suzy the stock girl says...

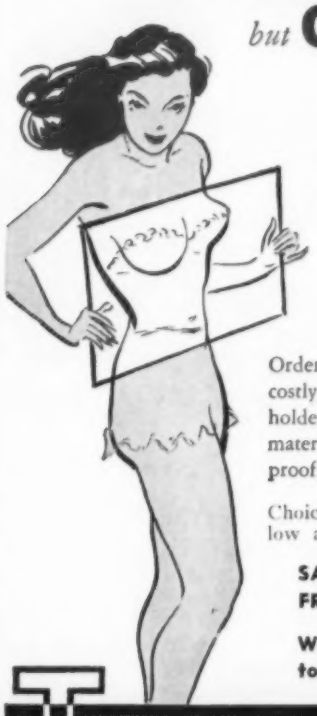
"IT'S A CINCH to move materials in these containers!"

• And she's right! Workers in your plant can move materials easier, faster, *and at less cost* with Diamond Fibre Receptacles. That's because these containers are made from an unusual plastic weighing only ½ as much as aluminum! Yet C-D Diamond Fibre is as tough as elephant hide—will not crack, splinter, or peel. Moreover, boxes, barrels, cans, and other containers made of Diamond Fibre have smooth, hard surfaces that will not mar even the most delicate fabrics. Write for descriptive Receptacle Catalog, now.

C-D DIAMOND FIBRE RECEPTACLES
CONTINENTAL-DIAMOND FIBRE CO., NEWARK 30, DEL.

For more details circle **NED-9503** on enclosed inquiry slip

...you can **SEE** it...
but **CAN'T TOUCH** it!



Keep your paper-work Clean and Neat with

TRANSPARENT PLASTIC HOLDERS

For Blue Prints — Shop Orders, etc. Smudged, torn papers are costly to your business. These plastic holders protect papers, save scarce materials, time and money. Flame-proof, moisture-proof, grease-proof.

Choice of sizes, styles, types. As low as 19c each (in quantity).

SAMPLE FREE

Write today!

TRANSPARENT SHADE CO.
505 N. Figueroa Street • Los Angeles 12, Calif.

For more details circle NED-9504 on enclosed inquiry slip

ORDERS from Uncle Sam?

SEE NOX-RUST FOR YOUR RUST PREVENTIVES

To fight the battle against rust, Uncle Sam has drafted rigid requirements for rust preventives that are used in packaging metal parts and products. To find the proper product conforming with these Federal Specifications, call on NOX-RUST ... the America's leading manufacturer of rust preventive products, NOX-RUST has the answer for you . . . all prepared in a handy chart that shows Federal Specifications, uses, applications and specific product recommendations. For your free copy of this chart, phone or write today.

STOP RUST WITHOUT OIL OR GREASE

Here's a NEW way to package parts and machines without oil or grease coatings. NOX-RUST's new Vapor-Wrapper delivers your parts "factory fresh"—sparkling clean—ready for immediate assembly or use. Send for the "HOW" book that shows case histories.

NOX-RUST CHEMICAL CORPORATION
Rust Preventive Division
2413 S. Halsted St. • Chicago 8, Ill.
BALTIMORE • PHILADELPHIA
DETROIT • SAN FRANCISCO

For more details circle NED-9505 on enclosed inquiry slip

you save 50% in TANK HEATING and COOLING with PLATECOIL
(REPLACE PIPE COILS)

★ You SAVE 50% in tank SPACE
★ You SAVE up to 50% in initial COST
★ You have 50% LESS WEIGHT to handle
★ You SAVE 50% in maintenance LABOR as plates are changed from outside the tank without dumping solution

. . . besides all these you get faster heating or cooling. Take advantage of the engineering assistance offered by Kold-Hold to help you with your heat transfer problems.

Send for complete techaical manual and descriptive Bulletin No. P57.

PLATECOIL Division
KOLD-HOLD MFG. CO.
LANSING 4, MICHIGAN

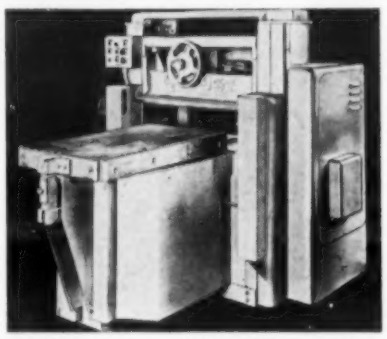
For more details circle NED-9506 on enclosed inquiry slip

SAFETY RECORD SIGN
posts days worked without injury

Designed as a constant reminder of days worked without a lost time injury, 20 x 30-in. IPCO Safety Scoreboard is large enough to be seen at a distance. Sign is finished with green background, has white letters and features two blackboard finish panels enclosing word "days" which can be marked in with chalk. Manufactured of 20-gage metal with baked finish, sign is suitable for indoor and outdoor use. Distributed by **Industrial Products Co.**, 2807 N. Fourth St., Philadelphia 33, Pa.

For more details circle NED-9507 on enclosed inquiry slip

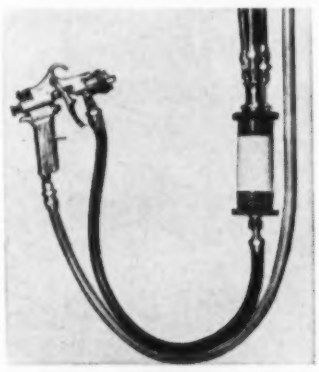
AUTOMATIC DIE PRESS
photoelectric cells increase safety



Photoelectric cells which time automatic table motion of Autotronic die press also insure operator safety by stopping machine if operator's hands interfere with beam during cycle. Mechanical press has electrical pushbutton system that works through electronic panel with rheostat adjustments. Micro-Flex safety switch detects overloading instantly. Smooth, self-adjusting electric clutch and brake are incorporated for fast starts and stops. Made by **Hobbs Mfg. Co.**, Dept. A, Salisbury St., Worcester 5, Mass.

For more details circle NED-9508 on enclosed inquiry slip

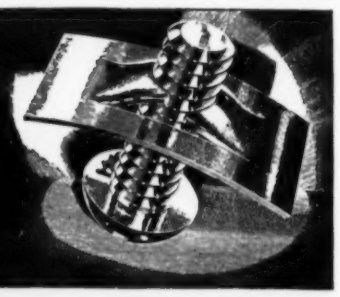
HOT PAINT SPRAY SYSTEM
paint heated by steam on way to gun



Using steam as heating medium, compact Control-Temp heat-exchanger installed in fluid line of spray gun heats paint, enamel or lacquer for hot spray application in product finishing. This hot spray system allows deposit of film of high solids content with few passes of spray gun. Unit may be mounted, or held in one hand, leaving other free for spraying operation. System uses standard spray gun with room temperature air pressure and requires no special circulating equipment. Paint reaches equilibrium temperature (160° F) in about 10 seconds and remains constant as long as flow is maintained. Unit is easily serviced. Made by **Arco Co.**, Dept. P, 7301 Bessemer Ave., Cleveland 27, O.

For more details circle NED-9509 on enclosed inquiry slip

STANDARD FLAT TYPE C7000 SERIES SPEED NUTS®



IMMEDIATE DELIVERY!

Fastest Thing in Fastenings

Faced with a shortage of lock nuts? Do as thousands of manufacturers have done—switch to SPEED NUTS. They can be applied much faster, eliminate assembly steps, and provide maximum holding power at minimum cost per fastener. They spin on by hand, tighten down without being held with a wrench.

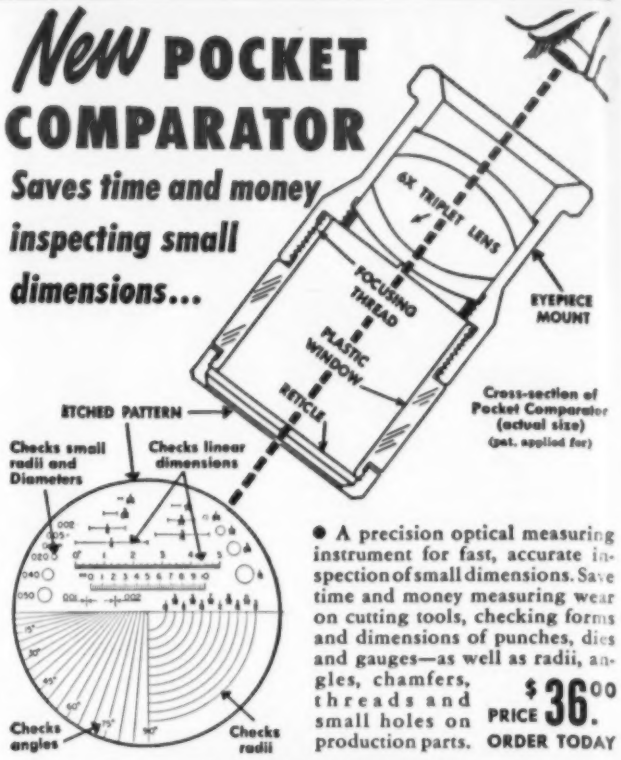
10 SIZES—For machine screws, C7000 SPEED NUTS are available in these sizes: –436, –632, –832, –1024, –¼-20. For tapping screws: –4A, –6A, –8A, –10A, –14A. Write for samples.

TINNERMAN PRODUCTS, INC.
Dept. 12-A, Box 6688, Cleveland 1, Ohio

For more details circle NED-9510 on enclosed inquiry slip

New POCKET COMPARATOR

Saves time and money inspecting small dimensions...



Cross-section of Pocket Comparator (actual size) (pat. applied for)

● A precision optical measuring instrument for fast, accurate inspection of small dimensions. Save time and money measuring wear on cutting tools, checking forms and dimensions of punches, dies and gauges—as well as radii, angles, chamfers, threads and small holes on production parts.

PRICE $36.00 ORDER TODAY

a product of **BELL & HOWELL CO.** distributed by

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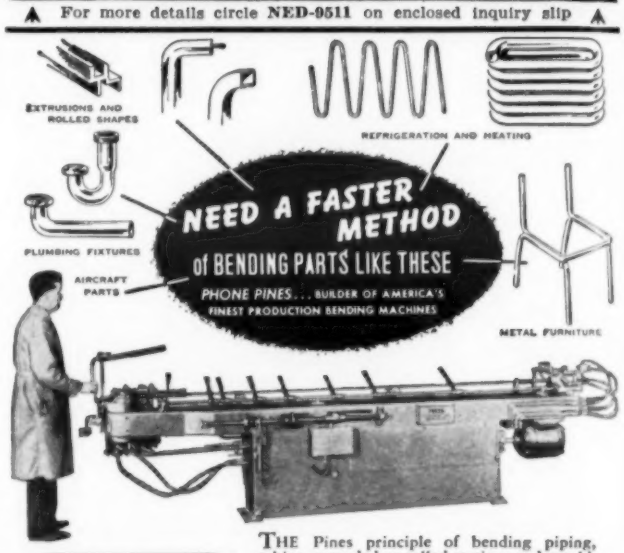
See Your National Tool Co. Representative or Local Jobber

NATIONAL TOOL CO.
11210 Madison Avenue Cleveland 2, Ohio

For more details circle NED-9511 on enclosed inquiry slip



COST CUTTING FEATURES OF PINES BENDERS

- Produces Accurate Uniform Bends without marking or distorting.
- Push-Button Control — simple, easy for one man to operate.
- Highly Versatile — handles wide variety of work — serpentine, coil, compound or multiple bends.
- Fast Set-Ups — tool changes in 10 minutes.
- Superior Design — tapered alloy-steel spindle, adjustable gibs, Timken bearings, Vickers pump

THE Pines principle of bending piping, tubing, extruded or rolled sections and mouldings, employes tested and proven methods that assure best results and peak production. Roll, compression, draw, and stretch bending methods are skillfully adapted to best suit your material and product needs. Hydraulic power, push-button control and automatic operation is combined to assure high efficiency and lower production costs. Ask Pines to analyze your bending problems now. Phone Aurora 2-7608.

WRITE FOR FREE LITERATURE
Find out how the Pines Benders are designed to save time and cut costs. Literature describes and pictures various models, attachments, and methods on actual jobs.

PINES ENGINEERING CO., Inc.
Specialists in Tube Fabricating Equipment
640 WALNUT AURORA, ILLINOIS

For more details circle NED-9512 on enclosed inquiry slip

STEEL APRON CONVEYORS

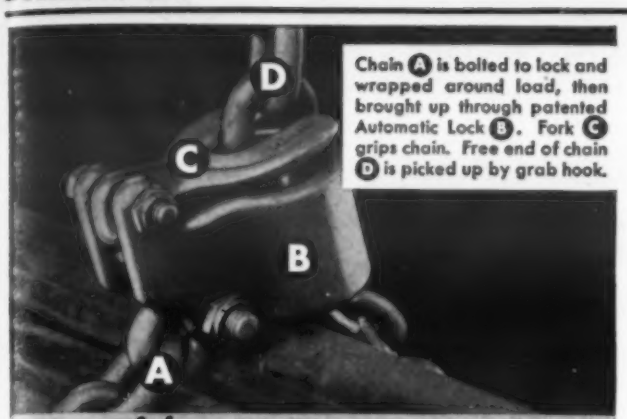
Adapted to both conveying and feeding service in handling of wet or dry, hard or gritty material. Double beaded flights form a practically leak-proof continuous belt of steel.

Will operate on both incline (as shown) or on the horizontal. Other types of conveyors available. Write us.

Note the sturdy construction of this Apron Conveyor. It is built for heavy duty work—will stand the gaff. Jeffrey also builds Wood Apron Conveyors which can be installed at floor or bench level.

JEFFREY
ESTABLISHED 1877
THE JEFFREY MANUFACTURING CO.
952 Fourth Street, Columbus 16, Ohio

For more details circle NED-9513 on enclosed inquiry slip



New AMERICAN
BUNDLING CHAIN
with Automatic Lock

A complete unit . . . ready to use. Eliminates links, shackles, pins, wires. **Speeds Material Handling.** Bundles can be made up quicker, handled faster and safer, and stored indefinitely without loosening. Simple to unlock and unhitch. ***Write** today for Bulletin **DH-266** on ACCO Bundling Chain with drop-forged Automatic Lock (Patent Pending).*

ACCO York, Pa., Atlanta, Chicago, Denver, Detroit, Los Angeles, New York, Philadelphia, Pittsburgh, Portland, San Francisco, Bridgeport, Conn.

AMERICAN CHAIN DIVISION
AMERICAN CHAIN & CABLE
In Business for Your Safety

For more details circle NED-9514 on enclosed inquiry slip

around the world, it's
HOOVER BALLS
made of
CHROME STEEL • CARBON STEEL • STAINLESS STEEL
BRASS • BRONZE AND MONEL METAL

"America's Foremost Ball Manufacturer"

HOOVER BALL and BEARING CO.
Ann Arbor, Michigan

For more details circle NED-9515 on enclosed inquiry slip

You can provide easy mobility to a variety of industrial products with
IRONBOUND ALL-PURPOSE HANDLING UNITS . . .

POPULAR IRONBOUND
FLO TRUK

• An easy to handle ruggedly constructed unit for carrying bulky and heavy loads at lowest cost. Seven standard sizes with one or two push handles makes it easy to select the proper truck for your requirements. Ask an Ironbound engineer for suggestions.

The HANDY for furniture and similar items.
The HAULER for cases, crates, tote boxes, etc.
The HUSKY for general use throughout the plant.

THE IRONBOUND "SAFETY-SKID" WITH ROUND CORNERS
Ironbound construction assures long hard use with complete safety to product and operator. Still the time proven method for handling of materials efficiently and economically.

IRONBOUND
BOX & LUMBER COMPANY
Materials Handling Division
55 HOFFMAN PLACE • HILLSIDE, N. J.

MANUFACTURERS OF QUALITY BUILT SKIDS, SEMI-LIVE SKIDS, FLOOR TRUCKS, ROLL TRUCKS, DOLLIES AND PRY BARS

For more details circle NED-9516 on enclosed inquiry slip

MOBILE ELEVATOR TRUCK
turns on 41-in. radius, lifts 1000 lb

Only 41-in. turning radius is required by Uplifter elevator-type mobile lift truck which has 24 x 24-in. lifting platform. It features "dual capacity" in that load limits of either 500 or 1000 lb can be selected and the equipment adjusted accordingly. Lift cable extended through bottom sheave and hooked to top of frame affords this added lifting strength. Handle pressure per crankturn for 1000-lb lift is 17 lb at lift of 11/16 in. per turn. Truck weighs 415 lb, stands 77 in. high and lifts to 62 in. Made by **Revolvator Co.**, 2032 86th St., North Bergen, N. J.

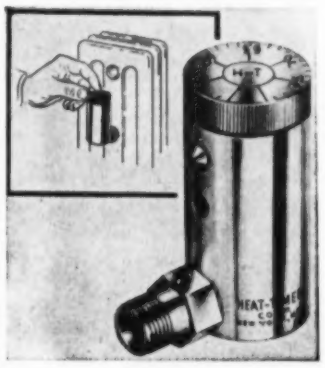
For more details circle NED-9517 on enclosed inquiry slip

HIGH VELOCITY AIR FILTER
for 300-500 fpm face velocities

Of viscous type and constructed of horizontal layer of galvanized wire mesh, Airsam Viro-Crimp air filter will operate at face velocities of 300 to 500 fpm. Mesh is so arranged as to insure large filter area with no appreciable pressure drop. Absence of direct opening in media assures peak efficiency, large dust holding capacity and uniform loading. Hemmed edges provide smooth surface and allow easy handling. All metal filters are easily cleanable and have drain slots to hasten drying. Made by **Air Filter Corp.**, Erie & N. Water Sts., Milwaukee 2, Wis.

For more details circle NED-9518 on enclosed inquiry slip

THERMOSTATIC RADIATOR VALVE
assures control of room temperature

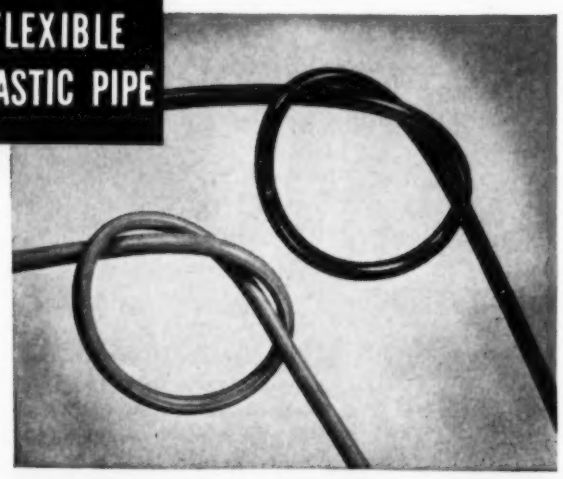


Replacing steam radiator vent valve, improved Heat-Timer is thermostatically operated, adjustable in range of 50° to 80° F and controls individual room temperature automatically. This chrome finished valve employs temperature-sensitive bronze bellows and is applicable to any low pressure one-pipe steam system. Simple dial setting selects any desired room temperature. Retail price is $3.95. Made by **Heat-Timer Corp.**, 520-A Broadway, New York 12, N. Y.

For more details circle NED-9519 on enclosed inquiry slip

JOHNSONITE
FLEXIBLE PLASTIC PIPE

Here is the quality Plastic Pipe that can be tied in a knot, is 13 times lighter than ordinary pipe and is used everywhere. Corrosion-proof; acid-resistant; low-cost; excellent insulation material; lasts over 30 years; and easy to install.



Johnsonite has *proven* itself in the following applications and is being tried in new ones constantly:

Plating industry	Well installation	Chemical Processing
Cable covering	Irrigating golf courses	Beverage Processing
Industrial drainage	Municipal water systems	Electrical uses
Mines	Farms	Food Processing

JOHNSONITE Rigid Plastic Pipe is also available for special applications.

WRITE FOR OUR CATALOG FOR FURTHER DETAILS

JOHNSON PLASTIC CORP.
P. O. BOX 268 • CHAGRIN FALLS, O.

For more details circle NED-9520 on enclosed inquiry slip

THREAD PIPE *faster!*
Cut Costs with TOLEDO

Toledo No. 11 Ratchet Threader, ½" to 1¼" pipe.
Toledo No. 999 2" Power Pipe Machine, wheel or knife cut-off.

Speed the work—beat high costs—with genuine TOLEDO Pipe Tools and Power Pipe Machines! Designed for *easy handling, faster cutting* . . . complete range of capacities. Hand Tools, all pipe sizes, ⅛" to 12" and ¼" to 1" bolts. Power pipe machines, up to 2" and 4" capacity. Time-proven dependability. Write for catalog. The Toledo Pipe Threading Machine Co., Toledo, O.

RELY ON THE LEADER TOLEDO

PIPE TOOLS . . . POWER PIPE MACHINES . . . POWER DRIVES

For more details circle NED-9521 on enclosed inquiry slip

Preferred power for sand and material spreaders and a wide range of other equipment for road maintenance and construction — the world's most widely used single-cylinder gasoline engine on machines, tools, appliances used by industry, railroads, oil-fields, and on equipment for farm and home.

BRIGGS & STRATTON is the world's largest builder — more than 30 years of continuous production — of single-cylinder, 4-cycle, air-cooled gasoline engines.
Briggs & Stratton Corporation,
Milwaukee 1, Wisconsin, U. S. A.

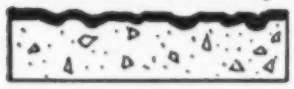
In the automotive field Briggs & Stratton is the recognized leader and world's largest producer of locks, keys and related equipment.

For more details circle NED-9522 on enclosed inquiry slip

PREVENT PATTERN TRANSFER IN YOUR FLOORS

RUTTED FLOOR BEFORE RESURFACING

A FEW MONTHS AFTER ORDINARY RESURFACING



YEARS AFTER RESURFACING WITH TEXAS JACK

Pattern transfer is the modified, but definite, duplication of the floor unevenness that originally required corrective treatment. Only a resurfacing material having great stability can prevent this transfer.

Texas Jack Resurfacer, the mastic of greatest stability and longest life, does not rut, wave or transfer pattern. A complete material. Nothing else to buy.

Recommended wherever any mastic may be used and, in many instances where other mastics fail.

WRITE TODAY FOR COMPLETE DATA

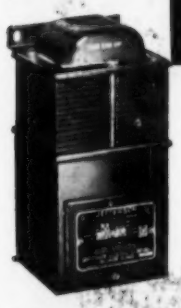
TEXAS JACK *the only completely dense mastic floor.*

FLASH-STONE CO. INCORPORATED
32 E. RITTENHOUSE STREET
PHILADELPHIA 44, PENNA.

▲ For more details circle NED-9523 on enclosed inquiry slip ▲

TO INCREASE PRODUCTION... KEEP LIGHTING EFFICIENCY UP

NEW JEFFERSON MERCURY LAMP TRANSFORMERS



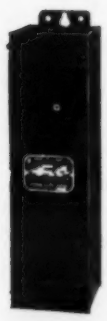
Indoor Transformers are made in both high and normal power factor types.

Better lighting is vital to production, and better transformers are vital if you are to realize lower operating costs and lower maintenance costs from a mercury lamp lighting system.

The revised Jefferson Mercury Lamp Transformer line has been designed and manufactured by *transformer specialists* so that you get the maximum advantages of the new mercury vapor lamps. They meet the requirements of leading lamp maufacturers.

Outstanding advances have been made that assure proper control of starting and operating lamp voltage and current. Roomy accessible wiring compartments are provided with *three* primary voltage taps so that the circuit voltage can be closely matched for maximum brilliancy and lamp life.

Write for 16-page illustrated Bulletin 521-5 for complete information on the new Jefferson Transformers for Mercury Lamps.



Indoor Two-Lamp Transformer, high power factor, serves two lamps and provides first cost and installation economies.

Outdoor Transformer for pole or wall mounting—or assembled by means of an Adaptor for pole-top installation.

JEFFERSON ELECTRIC

JEFFERSON ELECTRIC COMPANY
Bellwood, Illinois
In Canada: Canadian Jefferson Electric Co., Ltd., 384 Pape Ave., Toronto, Ont.

▲ For more details circle NED-9524 on enclosed inquiry slip ▲

DRILLING COOLANT UNIT has built-in pump and reservoir

Shorter coolant circulating stream of this self-contained coolant table delivers full volume flow from one to eight nozzles. Equipped with built-in pump and reservoir and

eight semirigid flexible metal coolant nozzles, table assures adequate supply of coolant at point user desires. Table can be moved from one machine to another and nozzles can be set to any position. Flow from each can be individually controlled from trickle to full volume. Table surface is precision ground. Made by **Commander Mfg. Co.,** 4221 W. Kinzie St., Chicago 24, Ill.

▲ For more details circle NED-9525 on enclosed inquiry slip ▲

PAPER COLLATOR 5 and 8-bin models speed gathering

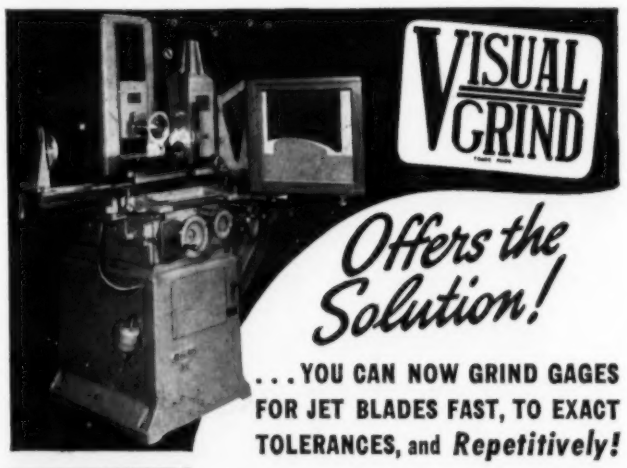
Ejectomatic feed on this table model collator speeds gathering of sheets from five or eight-bin type machines. Lever which propels feed arms operates smoothly on Thomson linear ball bearings. Inspection of collated set is possible, assuring accuracy and detection of blanks and poor copies. It measures 15½ in. square and 16¼ in. high. Made by **Thomas Mechanical Collator Corp.,** Room 516, 30 Church St., New York 7, N. Y.

▲ For more details circle NED-9526 on enclosed inquiry slip ▲

RESPIRATOR protects against radioactive dusts

Workmen exposed to oxides of beryllium, radioactive dusts and other process hazards can receive protection from Comfo Ultra-Filter respirator that has filter efficiency of 99.99 per cent against particles 3/10-micron in size. As an example of its efficiency, filter removes tobacco smoke from air. Filter material of asbestos fibers assembled in metal bound layers has large surface area with low resistance to breathing. Facepiece affords quick, gas-tight fit regardless of facial shape or size. Made by **Mine Safety Appliances Co.,** 220 N. Braddock Ave., Pittsburgh 8, Pa.

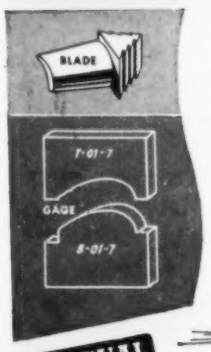
▲ For more details circle NED-9527 on enclosed inquiry slip ▲



VISUAL GRIND

Offers the Solution!

...YOU CAN NOW GRIND GAGES FOR JET BLADES FAST, TO EXACT TOLERANCES, and *Repetitively!*



Grind your gages in gangs, holding each tolerance closely, and forming them exactly one after another! That's how Visual-Grind helps to manufacture turbo-jet blades fast and accurately with huge savings in time and money. Exact repetition in grinding curves. Continuous reference to magnified image on screen. Precision optical system for trueness and definition. Rigidity, long life. Investigate NOW!

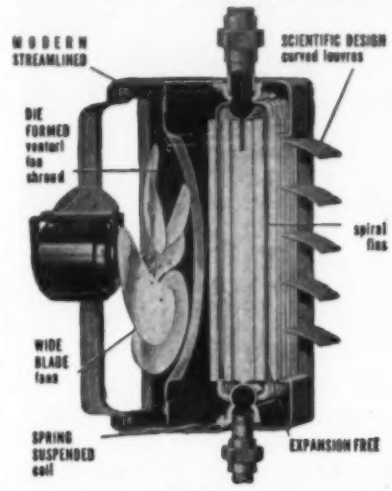
Ask for Bulletin N-12

VISUAL GRIND THE CLEVELAND GRINDING MACHINE CO.
1643 EDDY ROAD • CLEVELAND 12, O.

▲ For more details circle NED-9528 on enclosed inquiry slip ▲

UNIT HEATER . . sets new standard of quietness and heating efficiency

McCord Unit Heaters are a time proven product embodying design based on years of experience in the heat transfer field. These units are not only rugged in design and guaranteed for use on #150 p.s.i. steam pressure but are made attractive in appearance. Two outstanding features appeal to maintenance engineers—we use standard motors with standard bases which quickly permits the use of replacement motors should a motor fail in service—the heating element is made of individual spiral fin tubes which are free to expand independently without putting a strain on the brazed joints. The entire heating unit is spring suspended and floats free in the casing, eliminating rigid connections. Improved type fan blades deliver large volumes of air with minimum air noise and vibration which makes these units suitable for office and store use. A complete line of vertical projection type unit heaters and blast coils are also available. Catalog on request or write for folder. "Instructions for Maintenance of Unit Heaters." **McCord Corporation,** Detroit, Mich. *Advt.*



▲ For more details circle NED-9529 on enclosed inquiry slip ▲

DURA-CUT ABRASIVE DISCS
(used on right angle portable grinders and disc sanders)

These new flexible discs are ⅛" thick while the ordinary coated discs have but a single layer of abrasive. Contrasting such a tremendous amount of additional cutting ability it is easy to understand DuraCut's startling advantages.

- Greater economy
- Longer life — 15 to 20 times.
- Faster, sustained rate of cut.
- Increased labor savings — less disc changing.
- Safe — strong — resist tearing.
- Available in a wide range of grits, grades and structures — permit control over rate of cut and finish.
- Available in raised hub or flat shapes.

Ask for a demonstration.

Typical applications . . . Blending and finishing of steel, stainless, alloy steel and aluminum welds . . . Removing rust and scale . . . Finishing sheet metal jobs . . . Auto body work . . . Cleaning weld spatters.

BAY STATE

BAY STATE ABRASIVE PRODUCTS CO., Westboro, Mass.
Chicago, Cleveland, Detroit, Pittsburgh • Distributors, All Principal Cities.

▲ For more details circle NED-9530 on enclosed inquiry slip ▲

VERSATILITY on wheels!

You can't stump Stevedore, Jr.* with a tough job. This portable, power-driven belt conveyor is designed for all kinds of package and bag handling. Used alone or in combination with other conveyors, it is the most economical way to load or unload trucks or boxcars . . . move materials into balcony bins . . . or stack at a convenient height. Stevedore, Jr. can be easily rolled from job to job by one man. Available in 10" and 16" belts.

Write for prices and free catalog

The RAPIDS-STANDARD CO., Inc.
520 Rapistan Building
Grand Rapids, Michigan

Rapistan® CONVEYORS

CONVEYORS: Power or Gravity, Movable or Fixed.
Also a complete line of CASTERS & HAND TRUCKS

*T. M.

Representatives in Principal Cities

▲ For more details circle NED-9531 on enclosed inquiry slip ▲

LEADS BY 6 to 1

In answer to this question from a recent national survey... "What brand do you sell?"... Carboloy "Live-Spiral" Drills got more votes than the next six brands combined... leading by over 6 to 1! And "Live-Spiral" Drills lead because they *outperform* them all. Just look what users say:

PLUMBING CONTRACTOR: *"These drills are A-1."*

HEATING CONTRACTOR: *"Excellent performance."*

INDUSTRIAL USER: *"... exactly what we wanted ... delighted to get them."*

Carboloy "Live-Spiral" Drills available in sizes ¼" to 1", packaged individually or in handy kits. Fit any rotary electric drill.

Famous "Live-Spiral" Drills *automatically clean* holes as they drill. No packing! Tipped with Carboloy Cemented Carbide, *the hardest metal made by man.* Longer wear! What a combination! See your dealer or write direct.

"Carboloy" and "Live-Spiral" are trademarks of Carboloy Department of General Electric Company.

CARBOLOY
DEPARTMENT OF GENERAL ELECTRIC COMPANY
11189 E. 8 Mile Ave. • Detroit 32, Michigan

For more details circle NED-9532 on enclosed inquiry slip

Get this FREE Answer Book on AIR COMPRESSORS

Contains detailed information on all 54 Champion Models, PLUS:

- How to Select the Proper Compressor
- Suggested Equipment Combinations
- Installation and Maintenance Tips
- Correct Wire Sizes for Motors
- Air Compressor Accessories
- Air Receiver Data
- Air Flow Table

The Champion Catalog is an invaluable guide to the factory using air power. It shows you the *21 extra features* built-in to every Champion Air Compressor. It shows you how you can save money and increase production by selecting compressors practically "tailor-made" to fit your needs. Write for your Free copy TODAY!

5643

CHAMPION
PNEUMATIC MACHINERY COMPANY
837 N. Pleasant Street, Princeton, Illinois

For more details circle NED-9533 on enclosed inquiry slip

COMPARISON PROVES the VALUE of VEELOS—the Adjustable V-Belt

VEELOS V-BELTS	ENDLESS V-BELTS
What about ADJUSTABILITY?	
Any length is instantly available from a single reel for *any* v-belt drive.	Standard or special lengths must be supplied for *individual* drives.
What about INVENTORY?	
4 reels can care for every v-belt need in the O, A, B & C widths. No deterioration or obsolescence of spare belts.	316 sizes are required to provide a *complete* stock in the O, A, B & C widths. Spare belts not immediately used will age and deteriorate.
What about MAINTENANCE?	
Belts can be adjusted or replaced without moving the motor.	Sliding or pivoted motor bases are necessary to replace endless v-belts.
What about OPERATING EFFICIENCY?	
Full power delivery can be maintained because the tension of each belt in a matched set is kept uniform by removing or adding links.	Individual belts cannot be adjusted to maintain uniform tension and provide full power delivery.

VEELOS THE LINK V-BELT

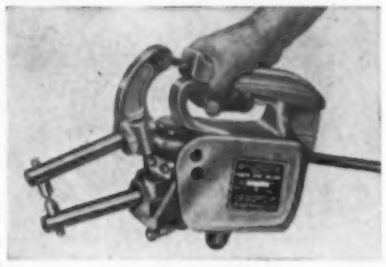
Get all the facts... write for your copy of the Veelos Data Book.

MANHEIM MANUFACTURING & BELTING CO.
650 Manbel St., Manheim, Pa.

Adjustable to any length • Adaptable to any drive

For more details circle NED-9534 on enclosed inquiry slip

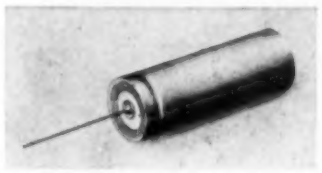
PORTABLE SPOT WELDER has semiautomatic timing control



High, controlled pressure is developed by leverage system of Porto-Spot model 275 welder which employs "squeeze and heat" principle. The 24½-lb weight of welder includes arms, electrodes and power cable. Incorporating semiautomatic timing control, unit has toggle type lever which holds metal under maximum pressure. As handle is squeezed shut, automatic switch applies current. Operation is on 220-240-v, 50-60-cycle, single-phase line. Mild and stainless steels up to ⅛-in. combined thickness can be spot welded. Two 45 and two 90-degree electrodes are included with Underwriters' Laboratories approved welder. Made by **Marquette Mfg. Co.,** Dept. K, 307 E. Hennepin Ave., Minneapolis 14, Minn.

For more details circle NED-9535 on enclosed inquiry slip

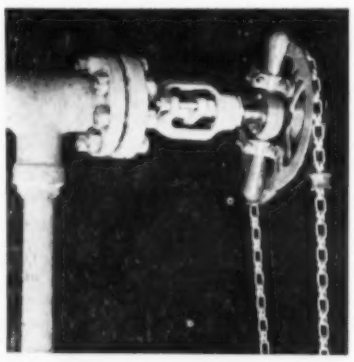
CAPACITOR CAN SEALS withstand extreme conditions



For use where vibration, shock, high and low ambient temperatures, thermal shock and extreme climatic conditions are encountered, Chemelec hermetic seals are made for capacitor can sizes from 0.377 to 0.962-in. Seals utilize process which produces fused hermetic seal between Teflon and metal which is applied to outer edge and center of seal. They are serviceable at temperatures from −110 to 500° F without appreciable change in electrical characteristics. Made by **United States Gasket Co.,** Fluorocarbon Products Div., 654 N. Tenth St., Camden 1, N. J.

For more details circle NED-9536 on enclosed inquiry slip

IMPACT TYPE VALVE HANDLE tightly closes inaccessible valves



Delivering 2.8 times the force of handwheels, Impactor handle for small valves makes it possible to close them tightly, even though located 10 to 50 ft above floor level. Lugs on underside of handle strike simultaneous blows against lugs of adapter attached to valve stem. Simultaneous blows prevent stem twist. Handle for increasing torque is available with two adaptors of different size square openings to fit most standard size stems. Sizes of square openings, which taper towards top, are 13/16 and 15/16-in. Illustration shows Impactor handle fitted with conventional chain wheel for operating overhead valves. Made by **Edward Valves, Inc.,** 1240 W. 144th St., East Chicago, Ind.

For more details circle NED-9537 on enclosed inquiry slip

TRI-SAW All-Purpose Portable Power Hacksaw

Makes Any Cutting Job Easy ... Quick ... Economical!

Cuts Most Anything Anywhere—Wood, Sheet Metal, Heavy Metal, Nails, Pipe.

PRICE ONLY $37.50

Use this sensational time and work-saving tool and you'll say it is the best portable all-purpose saw on the market! Only Tri-Saw gives you all these advantages:

- Fits 1/4" or 5/16" h. d. drill
- Variety of blades for every cutting need
- Simple construction
- No side torque or spin
- Balanced pistol grip design
- Cuts directly into floors and walls *without starting hole*

ATTENTION! JOBBERS AND DEALERS
Profitable possibilities for aggressive distributors. Write today for details.

Manufactured by TRI-SAW CORPORATION
6611 Clayton Road • St. Louis 17, Missouri

For more details circle NED-9538 on enclosed inquiry slip

COSTLY ACCIDENTS CAN BE PREVENTED With Safeway LōVOLT TRANSFORMER

The Portable Hand Lamp That Assures the *Maximum Safety* Regardless of Conditions

Safe—Double wound transformer ... tested to withstand 1600 volt breakdown ... windings isolated ... 3 wire primary for safety.

Watertight—Cords enter through sealing glands, covers bolted together at center with lock seal feature, no water or moisture can enter.

Oil Resisting—Made entirely from oil resisting synthetic rubber...can be used in presence of oils, and most chemicals...with no deterioration.

See Your Electrical Wholesaler or write ...

DANIEL WOODHEAD COMPANY
15 NORTH JEFFERSON ST., CHICAGO 6, ILL.

For more details circle NED-9539 on enclosed inquiry slip

New packing technique for shippers!

Note, in the above photo, the wide gap between top and bottom sections of the Ives Company telescopic-type shipping carton. One 2" strip of *Polyken* Industrial Tape No. 261 takes care of this; forms a strong, waterproof seal that stands up under the roughest handling during shipment. No. 261 meets government specifications, has a tensile strength of 50 lbs. per 1" width. Sticks firmly to any type of shipping carton.

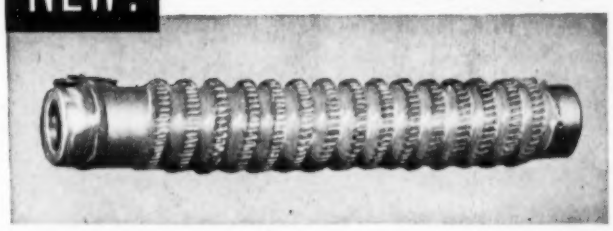
Ask your *Polyken* distributor or write for free folder, "Tape is a Tool." Address *Polyken*, Dept. NEM, 222 W. Adams Street, Chicago 6.

ONE OF THE NEW...
Polyken® INDUSTRIAL TAPES
TAILORED TO YOUR JOB

POLYKEN Industrial Tape, Department of Bauer & Black, Division of The Kendall Company

For more details circle NED-9540 on enclosed inquiry slip

NEW! ALL THE RIBFLEX ADVANTAGES ....IN HIGHER WATT RATINGS



Faster heat dissipation. Greater space saving.

New models of Ward Leonard's Ribflex Resistors—rated 85 to 95% higher than same-sized ordinary wire-wound resistors—are made in 400, 500 and 550 watt sizes. Lengths: 8½, 10½ and 11¾ in., respectively.

Reflexed metal alloy ribbon wound on edge and permanently secured to core gives greater area for heat dissipation—allows increased temperature rise. The new, larger size Ribflex units are your answer for high current, low resistance applications. Complete range now 75 to 550 watts.

Write for Bulletin 19. WARD LEONARD ELECTRIC CO., 51 South Street, Mount Vernon, N. Y. Offices in principal cities of U. S. and Canada.

WARD LEONARD ELECTRIC CO.
Result-Engineered Controls Since 1892
RESISTORS • RHEOSTATS • RELAYS • CONTROL DEVICES

For more details circle NED-9541 on enclosed inquiry slip

PRECISE
TEMPERATURE MEASURING BEGINS WITH
PRECISE THERMOCOUPLES

Installing dependable, responsive thermocouples at source of heat assures accuracy of temperature readings. There's a Thermo Electric Couple for your requirements—Industrial Furnaces and Ovens—Plastic Molding Machines—Chemical Processes—Oil Refining—Aircraft and Diesel Engines—or any process or product using pyrometric equipment.

You can depend on these thermocouples for accuracy, responsiveness and long life.—They are designed for specific applications and are made to exacting standards.

Available in all thermocouple calibrations with Protection Tubes, Quick Coupling Connectors, Lead Wires and Accessories.

Chromel Alumel Thermocouple with Connection Head and Protection Tube.

Tubular Iron Constantan Thermocouple showing weld of hot junction.

Our 36 Page Catalog T describes all our equipment. Write for your copy today.

Thermo Electric FAIR LAWN NEW JERSEY

▲ For more details circle NED-9542 on enclosed inquiry slip ▲

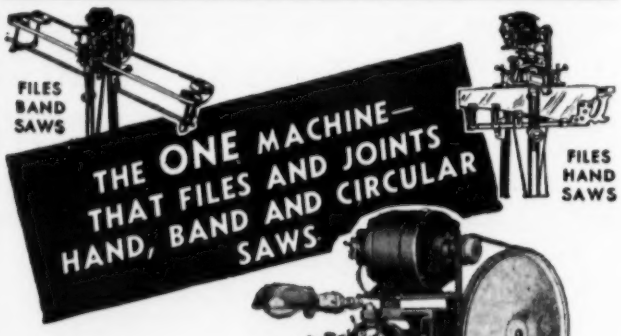
KLEER-VU ENVELOPES SPEED PRODUCTION REDUCE PLANT ERRORS..SAVE MAN HOURS

SEND FOR FREE SAMPLE

Grease and grime-smeared factory forms not only increase errors . . . they also slow down production because of hard-to-read instructions and drawings. At very low cost, you can protect all your blueprints, shop cards, work orders, etc., with Transparent Plastic Envelopes. *Instructions stay readable despite constant handling.*

AMERICAN *Kleer-Vu* PLASTICS, INC.
57 Thames St. Brooklyn 6, N. Y.

▲ For more details circle NED-9543 on enclosed inquiry slip ▲



The Foley Automatic Saw Filer sharpens all saws from 3 to 16 points per inch that can be filed with a 3-cornered file. This includes crosscut circular saws up to 24" diameter, band saws ⅛" to 4½" wide, and all types of hand saws.

It is not possible for the human hand and eye to equal the machine accuracy of the Foley, which automatically joints the saw as it files, bringing all high, low, large, small and uneven teeth back to uniform size, shape, spacing.

You'll hardly recognize your old saws after the Foley has put them back in perfect condition—and our 30-DAY TRIAL OFFER permits you to see the results on your own work. Write or send coupon for details.

FOLEY *Automatic* SAW FILER

FOLEY MFG. CO. 3323 N. E. 5th Street Minneapolis 18, Minnesota
Please send literature and details of your 30-DAY TRIAL OFFER.

Name .....

Address .....

▲ For more details circle NED-9544 on enclosed inquiry slip ▲

DUMB WAITER
applicable to industrial uses

Line of industrial dumb waiters makes possible savings in time, labor and space in handling of items not large enough to require elevator movement. Two-way operation is fully automatic with high safety factor. Because they take up little room and require comparatively light construction materials, dumb waiters can be strategically located so far as production and shipping areas are concerned. Made by **D. A. Matot, Inc.**, 1545 W. Altgeld, Chicago 14, Ill.

▲ For more details circle NED-9545 on enclosed inquiry slip ▲

ELECTRODE TIP DRESSER
for straight or tapered electrodes

Without removing from welder, straight or tapered electrodes can be dressed in few seconds with flush type tip dresser. It fits flush with dressing tool or can be used with most power tools, including lathes, right angle drills and drill presses with ⅜-24 threaded extension. Special sizes are available. High speed steel blade floats in chuck body for uniform cutting action on both edges and correct centering. Made by **C. O. Porter Machinery Co.**, 659 Front St. N. W., Grand Rapids, Mich.

▲ For more details circle NED-9546 on enclosed inquiry slip ▲

STEAM CLEANER
uses plant steam and water lines

Known as model F-15 fireless Hy-Steam-Pressure Jenny, this steam cleaner operates on any 60 to 150-psi steam supply to remove grease and dirt from machinery, floors and other surfaces. It mixes steam with pumped proportions of water and cleaning solution for cleaning, sanitizing and deodorizing. After connection to steam and water supply lines and 110-v, 60-cycle ac lighting circuit, flick of switch produces from 45 to 90 gph of hot chemical vapor spray, amount being regulated by operator. Unit includes 25 ft of vapor hose, cleaning gun and nozzles. Made by **Homestead Valve Mfg. Co.**, Hypressure Jenny Div., P. O. Box 84, Coraopolis, Pa.

▲ For more details circle NED-9547 on enclosed inquiry slip ▲

The 3 of Us Make a Great Team!

Me — THE DESIGNER

My Boston Gear Catalog containing complete information on
101 GEAR GROUPS . . . 4704 STOCK GEAR ITEMS

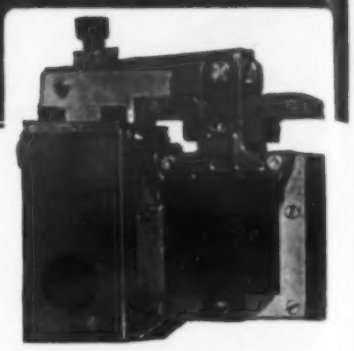
My Boston Gear Distributor one of
76 CONVENIENTLY LOCATED BOSTON GEAR STOCKS

*1,340,230 Boston Gear Catalogs in circulation. Write for your free copy, today.

BOSTON GEAR WORKS
69 HAYWARD ST., QUINCY 71, MASS.

▲ For more details circle NED-9548 on enclosed inquiry slip ▲

NEW HIGH PRESSURE SOLENOID VALVES *Features*



- Rugged compact construction
- 3000 P.S.I. operating pressure
- Continuous duty
- Poppet design eliminates leakage
- May be mounted in any position
- Impregnated coils resist moisture and condensation

Now available in 110-220-440 volt 60 Cycle A.C. Current

Waterman High Pressure Solenoid Valves are inexpensive, compact units designed for continuous duty in hydraulic systems where pressures are as high as 3000 P.S.I. Poppet type construction gives positive sealing against internal leakage. Impregnated oil resistant coils make these valves suitable for mounting in oil reservoirs. In many cases this feature eliminates costly piping and makes possible the construction of smaller, more compact hydraulic power units. Available in ⅜" pipe size.

West Coast: H. E. Webb, 918 No. Kenilworth Ave., Glendale 2, Calif.

WATERMAN ENGINEERING Company
725 CUSTER AVENUE
EVANSTON, ILLINOIS

▲ For more details circle NED-9549 on enclosed inquiry slip ▲

Select the RIGHT AIR COMPRESSOR For The Job

For maximum production and efficiency, it pays to have the right air compressor for the right job. The proper size and type air compressor is available from the complete line of Quincy Compressors, ranging in sizes from 1 to 90 c.f.m. Quincy manufactures a complete line of both air and water cooled units in a variety of mountings. Write today for details and latest prices. Quincy Compressor Co., Dept. NE-21, Quincy, Illinois.

Quincy COMPRESSORS
QUINCY COMPRESSOR CO. Quincy, Illinois
Branch Offices: New York • Philadelphia • Chicago St. Louis • Dallas • San Francisco

▲ For more details circle NED-9550 on enclosed inquiry slip ▲

THE MATEER ELECTRIC FILLER HANDLES THEM ALL!

LIQUIDS • OILS • POWDERS • PASTES
COMBINED LIQUIDS AND SOLIDS
1/500 oz. to 2 Pounds
20 to 70 Per Minute
Up to 750° F

SAVE TIME AND MONEY WITH THE MATEER ALL ELECTRIC FILLING HEAD

Totally enclosed, manual or automatic. Accuracy as close as ±½%. Synchronize this self contained filling head with existing production lines and processing systems.

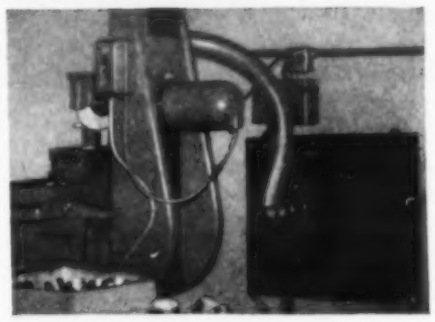
Jacketed and electrically heated hoppers available for handling cold and hot materials up to 750° F. Hot waxes, insulating compounds and asphalts handled without difficulty.

Send full information and samples of material to be tested. Write Dept. 105 for fully illustrated bulletin.

G. DIEHL MATEER & CO.
Lincoln Highway • Devon, Pa.

▲ For more details circle NED-9551 on enclosed inquiry slip ▲

STOP DUSTS



INSTANTLY *with* DUSTKOP

Available from stock of 22 standard models
300 cfm to 10,000 cfm

for: Surface Grinders, Tool and Cutter Grinders; Polishers and Buffers; Abrasive Belts and Discs; Woodworking and Plastic Industry Equipment . . . DUSTKOPS collect almost all kinds of industrial dusts.

Ask for Catalog 605-2. Describe dust problem for recommendation by return mail—no obligation.

AGET-DETROIT CO.
201 Main St. Ann Arbor, Michigan

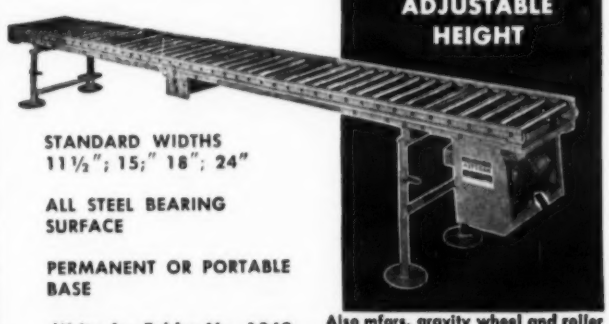
For more details circle NED-9552 on enclosed inquiry slip

KEEP THINGS *MOVING* with a METZGAR "LIVE ROLLER" POWER UNIT

Handles the jobs that are too "tough" for powered belt units. Undamaged by sharp corners or rough edged work. Supplies dependable power in gravity lines.

Work can be slowed or held without stopping conveyor.

4 STANDARD SIZES
ADJUSTABLE HEIGHT



STANDARD WIDTHS 11½"; 15;" 18"; 24"

ALL STEEL BEARING SURFACE

PERMANENT OR PORTABLE BASE

Write for Folder No. 1249

Also mfgrs. gravity wheel and roller conveyors and switches, end-wood wheels and cable-reel dollies.

METZGAR CO.
416 DOUGLAS ST., N. W.
GRAND RAPIDS 4, MICH.

For more details circle NED-9553 on enclosed inquiry slip

MYSTIK Paper Masking Tapes

for industrial
- Masking
- Holding
- Sealing

The right tape..the right size for every job . . every time!

A complete line of masking tapes for every purpose. Ten different types—17 widths.

Extremely Thin—MYSTIK Masking Tape ends troublesome paint build-up along masked edges! *Vastly stronger*—MYSTIK eliminates bleeding, smearing; peels off freely without tearing! *Flexible, stretchable*—MYSTIK grips firmly, adheres smoothly to rough, uneven or sharply curved surfaces!

WRITE TODAY *for information and FREE samples. Mystik Adhesive Products, 2657 N. Kildare, Chicago 39, Ill.*

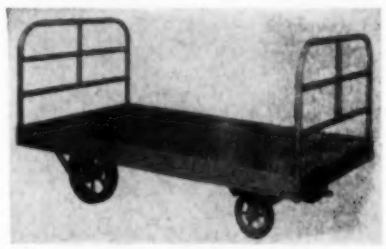
For more details circle NED-9554 on enclosed inquiry slip

PORTABLE FLUORESCENT LAMP produces 450 foot-candles of light

Two 4-w fluorescent tubes and all components contained in 2 x 6-in. drawn shade of this portable fluorescent lamp enable it to produce cool illumination up to 450 foot-candles. Utility lamp has jacknife support bracket with three 3-in. adjustable links. Base can be removed for permanent installation to desk or table. Links allow adjustment to any position. Lamps are rated 7500-hr average life. Unit can be converted to ultraviolet radiation source. Made by **Stocker & Yale, Inc.**, Association Bldg., Marblehead, Mass.

For more details circle NED-9555 on enclosed inquiry slip

STEEL HAND TRAILER rounded corners protect bag loads



Designed to handle bagged materials or to carry one or more pallets loaded with bagged materials, all steel medium duty trailer has rounded corners to prevent injury to bags or fabric containers. Welding of removable tubular racks on each end of trailer also minimizes injury to loads. Loops are found on each side for diagonal-type coupler rods. These rods permit backing with tractor without "jack-knifing." Furnished with cushion rubber wheels, trailer has capacity of 3000 lb and measures 69 x 36 in. Made by **Market Forge Co.**, 54 Garvey St., Everett 49, Mass.

For more details circle NED-9556 on enclosed inquiry slip

DADO CUTTER SET cuts groove without splintered edges

Smooth grooves without burned or splintered edges can be quickly cut with the Pacific Groove Master dado set which consists of two outside alloy steel cutters and six inside chippers. Cutters have only two sets of teeth for fast, cool operation under low power. Plane-like cutting action of raker tooth is delayed enough to permit side cutters to cut groove sides before being raked clean. Set has diameter of 5⅝ in., is adjustable in width from 3/16 to 9/16 in. in 1/16-in. stages and is available in ½ and ⅝-in. arbor holes. It is easily sharpened and works well with or against wood grain, producing chips instead of sawdust. Made by **Western Saw Manufacturers, Inc.**, Dept. Z, 1844 W. Washington Blvd., Los Angeles 7, Calif.

For more details circle NED-9557 on enclosed inquiry slip

Bin Stuck Lately?

Don't ruin your Bins

Vibrate them with a TYPE F
CLEVELAND AIR VIBRATOR

- Steel Chips . . . Dry Colors . . . Concrete . . . Fertilizer . . . Sand . . . Coal . . . Soap . . . Sawdust . . . Vegetables . . . Chipped Ice . . . Meat . . . Candy . . . Wood Chips . . .

Or any other 'granulars' free up fast with a Type F Cleveland AIR Vibrator. Eliminate plugged or arched conditions. Write for Catalog No. 105 for complete details.

THE CLEVELAND VIBRATOR COMPANY

2745 Clinton Ave. • Cleveland 13, Ohio

For more details circle NED-9558 on enclosed inquiry slip

FULL ELECTRICAL PROTECTION that Lasts for Years

ALLIS-CHALMERS INDOOR OIL CIRCUIT BREAKERS

INDUSTRIAL ELECTRICAL SERVICE

2300 to 13,800 volts — Up to 500,000 kva interrupting capacity

Type D-20, 7.2 kv, 600 amp, 50,000 kva interrupting capacity oil circuit breaker with solenoid operator and automatic trip.

FOR DEPENDABLE PROTECTION of your electrical equipment, investigate the Allis-Chalmers breaker type that will meet your requirements.

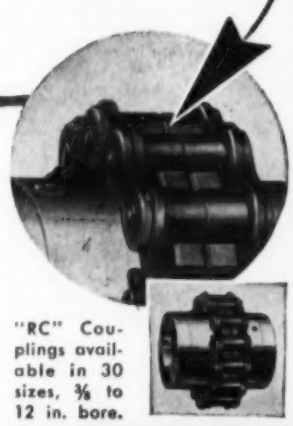
Low maintenance, long life and reliable performance in these modern breakers are the result of over 50 years circuit breaker experience (air or oil). Allis-Chalmers circuit breakers for industry and electric power utilities range from 2500 to 230,000 volts, 15,000 to 10,000,000 kva interrupting capacity.

For complete information on the breaker for your requirements, contact your nearby A-C sales office or write Allis-Chalmers, Milwaukee 1, Wisconsin, specifying voltage and interrupting capacity. A-3504

ALLIS-CHALMERS

For more details circle NED-9559 on enclosed inquiry slip

Get the ONE flexible coupling that gives you single chain simplicity plus divided rollers



ONLY Link-Belt "RC" Flexible Couplings give you both. Divided rollers of Precision Steel Roller Chain equalize load . . . maintain proper balance at high speeds . . . adjust to reasonable misalignment and end float. Single-chain width means simplicity and economy.

There's a Link-Belt Roller Chain Coupling for ratings from fractional to 1000 hp. For complete information, write for Folder 2363.

"RC" Couplings available in 30 sizes, ⅜ to 12 in. bore.

LINK-BELT "RC" FLEXIBLE COUPLINGS

LINK-BELT COMPANY: Chicago 9, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8, Springs (South Africa). Offices, Factory Branch Stores and Distributors in principal cities. 12,524

For more details circle NED-9560 on enclosed inquiry slip

THE FAMOUS MULTIFORM BENDER CUTTER

Produces Without Special Tooling — Saves Die Costs Saves on Expensive Presses

The illustration at the left shows just a few pieces produced on our famous Multiform Bender-Cutter. This efficient machine is useful in all lines of trade.

NO. 5 AIR MODEL

ALSO BUILT IN LARGER SIZES

HAND OPERATED MODELS AVAILABLE

FIVE-IN-ONE-TOOL
IT BENDS FLAT AND ROUND STOCK INTO ANY SHAPE. CUTS AND PUNCHES FLAT STOCK

J. A. RICHARDS CO. MYRTLE & PITCHER STS. KALAMAZOO, MICHIGAN

For more details circle NED-9561 on enclosed inquiry slip

DAV-SON CORK-BACKED BULLETIN BOARDS

DAV-SON indoor and outdoor style Bulletin Boards provide attractive displays for up-to-the-minute announcements and posters. Your choice of hardwood or metal frames, with or without locking glass doors, illuminated or non-illuminated.

"THE SAFETY DIRECTOR"

Flashing display is a constant warning to employees to avoid accidents. Changeable letters permit timely safety messages to be set up as often as required. Definite improvement in safety records has been noted in plants using "The Safety Director."

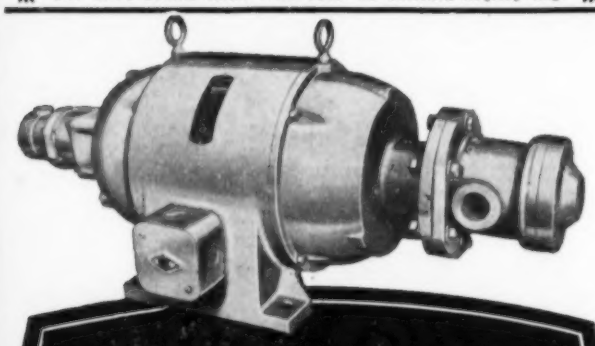
Write for complete information regarding DAV-SON — Cork Bulletin Boards and Directories and the famous "Safety Director."

DAV-SON

Ask for Bulletin "A"

A. C. DAVENPORT & SON, INC.
ESTABLISHED 1932
311 N. DESPLAINES ST., CHICAGO 6, ILL.

For more details circle **NED-9562** on enclosed inquiry slip



NEW HYDRAULIC PUMP MOTOR
features standardized system for
DIRECT ENDBELL MOUNTING

This new Reuland Hydraulic Pump Motor is *factory adapted* to the direct, endbell mounting of *all makes* of hydraulic pumps.

AUTOMATIC PRECISION ALIGNMENT — All motors are supplied with factory machined endbell flanges, pre-engineered to fit the registers on the pump mounting flange.

LOWER INSTALLATION COSTS — (1) only one unit to mount. (2) No time wasted in adjusting to proper alignment. (3) Fabrication of pump mounting platform is eliminated.

LOWER OPERATING COSTS — Pump life is almost doubled when alignment is perfect.

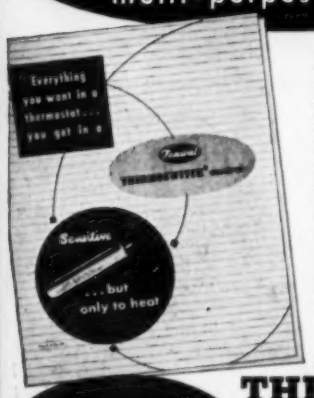
VERSATILE COMBINATIONS — Supplied with pump flange mounts on one or both endbells.

Write for new Engineering Folder No. 2000-12

REULAND ELECTRIC COMPANY
Alhambra, California • Representatives in all principal cities

For more details circle **NED-9563** on enclosed inquiry slip

GET YOUR COPY
of free booklet on unique, multi-purpose thermostat



Be among the many to benefit from unique performance of low-cost Fenwal THERMOSWITCH thermostats. Read all about them in free booklet available at no obligation to you. Learn how the Fenwal single-metal shell expands or contracts *instantaneously* with temperature changes, making or breaking totally enclosed electrical contacts. Used to control heat, pressure and other variables. Fast, accurate, sensitive.

Fenwal

THERMOSWITCH®
The Precision, Multi-Purpose, Thermostat Control
SENSITIVE...*but only to heat*

MAIL TODAY

FENWAL, INC., 88 Pleasant St., Ashland, Mass.
812 Pleasant Street, Los Angeles 4, Cal.
Temperature Control Engineers

Please send me the Fenwal booklet "Everything you want in a thermostat."

Name.....Position.....
Company.....
Street.....
City.....Zone.....State.....

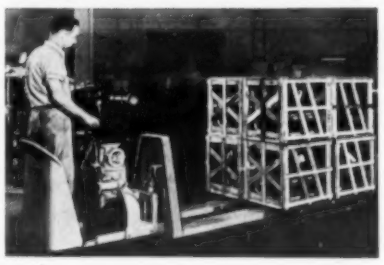
For more details circle **NED-9564** on enclosed inquiry slip

HEAVY DUTY PAINT ROLLER
for oil, water or rubber base paint

Developed for large area coverage on walls, ceiling, floors and structural steel work, Arsco heavy duty industrial paint roller has extra high pile lambswool. It functions with oil, water or rubber base paints and can be used with long pole for reaching high places without standing on ladder or scaffold. Four-foot pole is standard, but longer poles can be attached. Roller is made with oversize brass bearings, permanently attached cover and aluminum frame. The 9, 14 and 18-in. rollers hold large quantity of paint. Made by **American Products Co.**, 3306 Edson Ave., New York 66, N. Y.

For more details circle **NED-9565** on enclosed inquiry slip

INDUSTRIAL POWER TRUCKS
use increased horsepower engines



Greater power is afforded Truck-Man industrial trucks by 5.8-hp Wisconsin air-cooled gasoline engine which replaces former 4.4-hp unit. Loads weighing up to 3500 lb can be handled readily, even on steep inclines, on hydraulically operated skid lift and pallet lift models as well as the utility platform and tractor types. All have 360-degree steering and pneumatic tired drive wheels. Made by **Knickerbocker Co.**, Truck-Man Div., 627 Liberty St., Jackson, Mich.

For more details circle **NED-9566** on enclosed inquiry slip

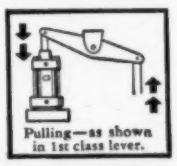
METAL SLITTING SAWS
carbide tips permit high speed

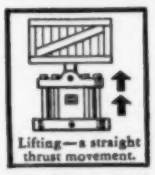
Roughing and finishing, slitting and grooving operations can be performed on steel, cast iron, aluminum and other nonferrous metals by carbide tipped saws. Production cuts 6¾ in. deep in cast iron and 2¼ in. deep in steel have held size within 0.002-in. in slots 4½ ft long. One application is in cutting Inconel X. Blades are made in 3 to 18-in. diameters and 0.085 to ½-in. widths. Made by **North American Products Co.**, 3103 W. Cherry St., Milwaukee 8, Wis.

For more details circle **NED-9567** on enclosed inquiry slip

Rasslin' with HIGH COSTS?
SAVE on "MUSCLE JOBS" with T-J CYLINDERS

Toggle—a typical pushing operation.


Pulling—as shown in 1st class lever.


Lifting—a straight thrust movement.

Air or hydraulic power—applied by T-J Cylinders—gets an amazing lot of tough jobs done for industry . . . *faster, more efficiently,* and at *lower cost!* Use T-J Cylinders for a wide range of pushing, pulling, lifting, clamping or control jobs . . . 100 lb. or 50,000 lb. Many standard sizes and styles . . . both cushioned and non-cushioned types . . . precision-built, dependable. Write . . . The Tomkins-Johnson Co., Jackson, Mich.

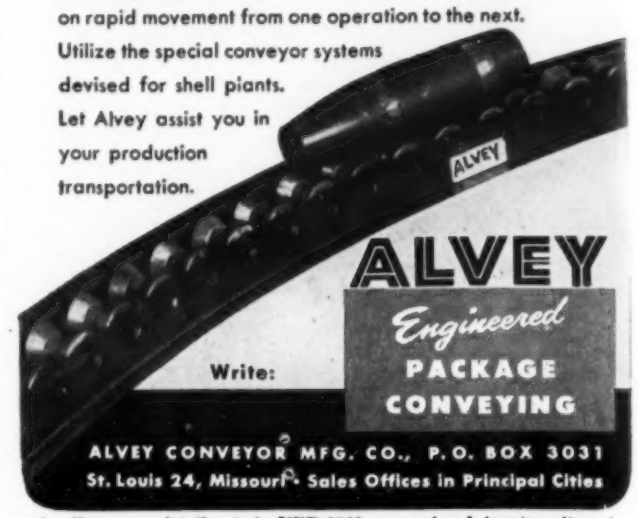
35 YEARS EXPERIENCE

TOMKINS-JOHNSON (T-J)
VISITORS . AIR AND HYDRAULIC CYLINDERS . CUTTERS . CLINCHERS

For more details circle **NED-9568** on enclosed inquiry slip

Conveyors for SHELL HANDLING

Shell production on schedule may be dependent on rapid movement from one operation to the next. Utilize the special conveyor systems devised for shell plants. Let Alvey assist you in your production transportation.



ALVEY
Engineered PACKAGE CONVEYING

Write:

ALVEY CONVEYOR MFG. CO., P.O. BOX 3031
St. Louis 24, Missouri • Sales Offices in Principal Cities

For more details circle **NED-9569** on enclosed inquiry slip

IMPROVE YOUR PRODUCTS AT LOW COST

You can improve your products and equipment, give them corrosion resistance and minimize use of critical materials by designing your products around PERMACLAD. Get complete information today.

FREE
Write for a copy of this information packed folder—D-72.

For Better Products at Low Cost—Specify PERMACLAD

PERMACLAD
STAINLESS CLAD STEEL

125th A.W. YEAR

ALAN WOOD STEEL COMPANY
CONSHOHOCKEN, PA.
125 Years of Iron and Steel Making Experience

Other Products:
A. W. ALGRIP Abrasive Floor Plate • A. W. SUPER-DIAMOND Floor Plate • Plates • Sheets • Strip • (Alloy and Special Grades)

For more details circle **NED-9570** on enclosed inquiry slip

ELECTRIC and ELECTRIC-EYE COUNTING

JUST OFF THE PRESS—16-page illustrated bulletin. Describes Modern Methods of Count Controlling Production Packaging, Deliveries, Batch Counting; Remote Production Counting. Send for your copy.

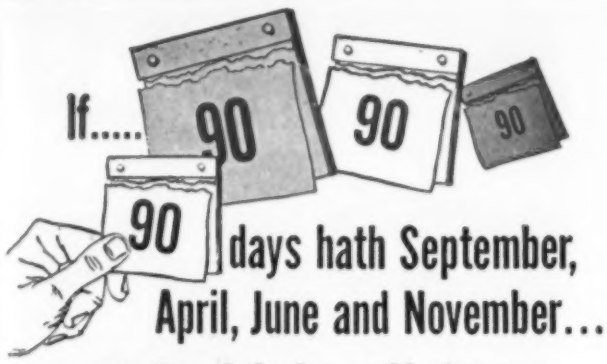
Tremendous aid to improved efficiency

WIZARD Electric Counters count anything that will operate a switch, photo-electric unit, or other circuit-breaking device. You can locate them at any distance from the actual source of count. Operations thruout the plant can be counted in Production Office.

Models for every purpose. Just tell us what you want to do.

Production Instrument Company
700-12 W. JACKSON BLVD., CHICAGO 6, ILL.
Representatives in Principal Cities

For more details circle **NED-9571** on enclosed inquiry slip



your Royal dealer could give you 'One-month' delivery...maybe!

Why does it take so long to get delivery on Royal furniture? Here are four very good reasons...

1. Government purchasing demands have increased.
2. Material shortages and restrictions have developed.
3. D.O. orders take priority over non-defense production.
4. The overwhelming increase in Royal's popularity on today's consumer market!

If you can wait...you'll be wise to wait for Royal!

Royal
METAL FURNITURE SINCE '97

ROYAL METAL MANUFACTURING COMPANY
175 NORTH MICHIGAN AVENUE · CHICAGO 1
New York · Los Angeles · Michigan City, Ind. · Warren, Pa. · Preston and Galt, Ontario

For more details circle NED-9572 on enclosed inquiry slip

IT GRIPS THE BOLT... ...AND HOW!

GRIPCO LOCK NUT

lives up to its name! It grips the bolt so firmly that bolt and nut practically become a single unit, which resists vibration, strain, oil or chemicals.

However, the *Gripco Lock Nut* may be removed with a wrench and re-applied many times without appreciable loss of locking power.

Gripco Lock Nuts are available in stainless steel or brass and for National Fine or National Coarse bolt threads.

GRIPCO PILOT PROJECTION-WELD NUTS

Speed production. Save time. The raised circular pilot fits snugly into the pilot hole, centering the nut instantly, accurately, ready for resistance welding. No measuring, no jigs, no special fixtures, no time wasted. Made with either of two pilot heights to fit different thicknesses of metal. Available with Standard or Gripco Lock Thread.

GRIPCO COUNTERSINK WELD NUT

Hot metal particles dislodged by welding are shunted away from and do not stick to the Nut Threads.

Samples and prices sent promptly on request. Specify type of nut and type of thread as well as nut sizes.

GRIP NUT COMPANY
308-G S. MICHIGAN AVE., CHICAGO 4, ILL.

For more details circle NED-9573 on enclosed inquiry slip

Improved PROTECTION *for* CRANE HOISTS AGAINST OVERTRAVEL *with* EC&M SAFETY LIMIT STOP

1. Compact—easy to mount—Reduced, overall dimensions—three convenient mounting holes, and but one suspended weight.

2. Small reset travel—High crane lifts are possible with the No. 20 because the amount of travel between "run" and "tripped" positions has been kept at a minimum.

3. High interrupting capacity—Two normally open and two normally closed contacts, mechanically interlocked and with wide, vertical opening, always assure positive interruption of the hoist motor current.

No. 20 Youngstown size; 100 H.P.; 230 volts; single motor rating. Also available in duplex style.

Ask for Bulletin 1032.

This No. 20 Youngstown Limit Stop can be easily installed on new or old cranes, either alternating or direct current operated.

THE ELECTRIC CONTROLLER & MFG. CO.
2698 EAST 79TH STREET • CLEVELAND 4, OHIO

For more details circle NED-9574 on enclosed inquiry slip

PORTABLE AIR COMPRESSOR
diesel driven unit delivers 365 cfm

Self-contained and mobile, model 365 air compressor delivers 365 cfm of air at 100 psi for industrial, construction and maintenance work. Jaeger compressor is driven by 165-hp model HRBI Cummins diesel engine at nominal operating speed of 1240 rpm. Both units are mounted on structurally welded frames. Pneumatic tired chassis with automotive type front steering axle permits safe hauling speeds up to 35 mph on rough roads. Steel wheel or skid mountings are available also. Made by **Jaeger Machine Co.**, 350 Dublin Ave., Columbus 16, O.

For more details circle NED-9575 on enclosed inquiry slip

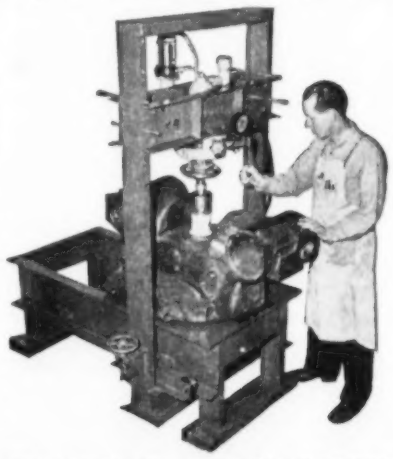
INFRARED HEATING UNITS
for building in special locations

Available in 24, 32 and 48-in. sizes, infrared heating units have asbestos insulation and adjustment ear lugs for joining any number of units together in special locations where infrared ovens are not suitable. Additional units can be joined side by side and end to end. Various socket spacings are offered, along with line of attachment feet and other mounting bracket accessories. Sockets are staggered for overlapping, smooth heat pattern. Units use R-40 heat reflector lamps. Made by **Wil-Son Mfg. Corp.**, Dept. NE, Cloverport, Ky.

For more details circle NED-9576 on enclosed inquiry slip

MOVABLE FRAME PRESS
for straightening large parts

Problem of bringing together large, awkward parts requiring straightening and equipment for performing such an operation is solved by this movable frame hydraulic press. Work can be lowered by hoist or crane onto large area table. Frame is then moved over table. Workhead can be moved from side to side along frame channel for lateral and longitudinal centering, and can be moved up and down. Presses are made in standard capacities of 25, 50, 75 and 125 tons with electric or air powered hydraulic operation. Made by **Dake Engine Co.**, Dept. 743-C, Grand Haven, Mich.



For more details circle NED-9577 on enclosed inquiry slip

If you use tubing to convey liquids, gases or semi-solids, Titeflex can help you do it better at less cost. Titeflex flexible tubing is made in brass, bronze, stainless, Monel and Inconel. It's made in types and sizes to withstand temperatures to 1550°F. and pressures to 6800 psi. It's available in a full range of sizes, complete with any required styles of fittings. In addition, Titeflex is all-metal. Regardless of the operation, it is more resistant to fatigue . . . it will stand up longer and give better service.

Write us for catalog outlining Titeflex advantages in full.

Titeflex, Inc.
507 Frelinghuysen Avenue, Newark 5, N. J.

TITEFLEX FILLS TUBING REQUIREMENTS TO A . . .

For more details circle NED-9578 on enclosed inquiry slip

NEW! Dual V-Belt Drive
Cuts Time & Costs

Portable SYNTRON ELECTRIC SAW

This new Dual V-Belt Drive protects the motor against overloads and burnouts—easily absorbs shocks and stalls—eliminates gears and gear boxes. It assures vibrationless, velvet-smooth operation with surplus power for faster, cleaner cutting.

Here is your saw, for cutting job time and costs, Syntron Portable Electric Saw with Dual V-Belt Drive.

Write for Illustrated Literature

SYNTRON CO.
405 Lexington Ave. Homer City, Pa.

For more details circle NED-9579 on enclosed inquiry slip

the miracle-worker!

GPX—Georgia-Pacific's plastic-faced plywood, is performing production miracles . . . GPX versatility is apparent as new applications of this unique product are discovered.

GPX combines the strength and durability of plywood and the armor-hard surface properties of plastic. The plastic overlay is applied under heat and pressure at the time the plywood is being bonded. Result: the plastic flows, condenses and sets, forming a hard plastic surface that *is part of the plywood itself.*

GPX is incomparable for concrete forms . . . GPX has made the revolutionary Unicel box car a reality . . . GPX's flawless surface and its resistance to wear makes it superior to other materials for foundry match plates. GPX is the perfect material for tables, counters, and most work surfaces.

The GPX Use Folder will aid you in determining where Georgia-Pacific's GPX can solve your construction and production problems. Send for this booklet and see what miracles GPX can perform for you.

GEORGIA—PACIFIC
PLYWOOD COMPANY

OFFICES OR WAREHOUSES IN: Augusta, Birmingham, Boston, Chicago, Columbia, Louisville, Memphis, Nashville, Newark, Olympia, Orlando, Philadelphia, Pittsburgh, Portland, Raleigh, Richmond, Savannah.

For complete data, fill in and mail this coupon *today*

Georgia-Pacific Plywood Company
Plastic Plywood Division
Marsh Street
Port Newark 5, N. J.

Please send me the GPX Use Folder.

NAME.....
FIRM NAME.....
.....
FIRM ADDRESS.....
CITY.....STATE.....
POSITION.....

For more details circle NED-9580 on enclosed inquiry slip

HOUGHTON
COSMOLUBE
multi-purpose grease

1 ...ONE perfect grease for all Hot spots—Cold spots—Wet spots!

★ Only one grease to buy
★ Resists high temperatures
★ Pumps easily below zero
★ Insoluble—water resistant
★ Adheres to metal—less leakage
★ Simplifies selection

Write for Bulletin

E F HOUGHTON & CO. PHILADELPHIA 33, PA.

▲ For more details circle NED-9581 on enclosed inquiry slip ▲

TRU-LAY PUSH-PULL CONTROLS

This NEW 12-page Booklet

SHOWS YOU HOW TO CONTROL CONTINUOUS OR INTERMITTENT TRANSMISSION OF RECIPROCAL MOTION

Tru-Lay Push-Pull is solid as a rod—yet *flexible* as a wire rope. It operates while flexing . . . over short or long distances . . . with few or many bends. Capacity up to 1000 pounds input.

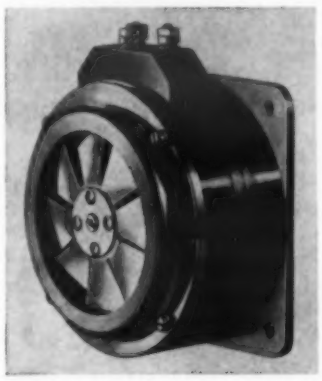
Write our Detroit office today for your copy of **DH-287**

601 Stephenson Bldg., Detroit 2 • 2475 Porter St., Los Angeles 21
Bridgeport, Connecticut

ACCO
AUTOMOTIVE AND AIRCRAFT DIVISION
AMERICAN CHAIN & CABLE
In Business for Your Safety

▲ For more details circle NED-9582 on enclosed inquiry slip ▲

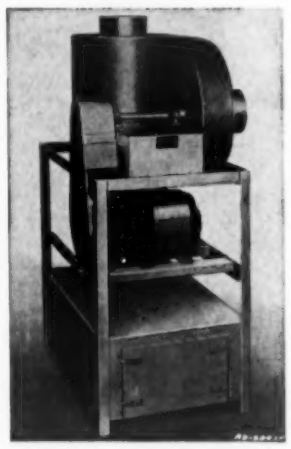
SYNCHRONOUS MOTOR
operates on reluctance principle



Compact and lightweight, this small synchronous motor operates on magnetic resistance or reluctance principle. Typical motor has 4-in. diameter and is 2⅜ in. long. It weighs 2.6 lb and develops 8-oz-in. starting torque and 0.8-oz-in. synchronous torque. Motor requires no starter and pulls into step at any frequency from 10 to 400 cycles. It can be built to operate continuously at any voltage below 250 v, either single or polyphase. Made by **Allis-Chalmers Mfg. Co.**, 918 S. 70th St., Milwaukee 1, Wis.

▲ For more details circle NED-9583 on enclosed inquiry slip ▲

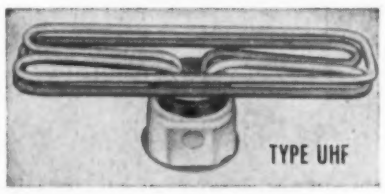
DUST COLLECTOR
for use on 25-cycle power



Available for use on 220 or 440-v, three-phase, 25-cycle power, model 20ND30 Dustkop dust collector exhausts cleaned air containing toxic fumes out-of-doors. Unit has 2450 cfm capacity on single 6-in. inlet, with 4.5 in. static suction. Cleaned air outlet pipe is 8 in. Use can be for removal of industrial dusts created by buffing, polishing, woodworking, chemicals or mixing and handling various types of materials. Motors for operation on other power supplies are available. Made by **Aget-Detroit Co.**, 201 Main St., Ann Arbor, Mich.

▲ For more details circle NED-9584 on enclosed inquiry slip ▲

ELECTRIC HEATING ELEMENTS
for water heating service



Designed for use in equipment requiring water heating elements for base insertion, three Thermalink electric urn heating elements of tubular immersion type require a minimum water depth of 2 in. Two conventional size elements are installed in $2\frac{7}{16}$-in. holes and have two seamless copper elements for three-heat operation. Standard wattages from 1000 to 6000 are available. Two types are identical except for mounting. Type UHT has straight thread mount with locknut, while type UHF has flange mount with take-up plate. Third element, type UHFJ, requires 1⅜-in. hole for mounting. It is similar to UHF, but is for single-heat operation only. Wattages are from 600 to 1500. Made by **Electro-Therm Inc.**, 925 Selim Rd., Silver Spring, Md.

▲ For more details circle NED-9585 on enclosed inquiry slip ▲

THAT TOUGH INTERCOM PROBLEM NO ONE ELSE CAN LICK

may be a "natural" for
WHEELER

Sound Powered
TELEPHONES

• NO BATTERIES
• NO OUTSIDE POWER
• NO ELECTRICAL HAZARD
• NO MAINTENANCE

Up to 20 miles • up to 12 stations • many variations

THE WHEELER INSULATED WIRE COMPANY, Inc.
Division of the Sperry Corp.
1108 EAST AURORA ST., WATERBURY 20, CONN.

▲ For more details circle NED-9586 on enclosed inquiry slip ▲

Clarke CLICKS with CUSTODIANS!

Where floors take a beating...

CLARKE FLOOR MAINTAINER
Scrubs, waxes, polishes, steel wools, sands and shampoos. Improved safety switch. "Self-lifting" wheels. Four sizes.

CLARKE PORTABLE WET and DRY VACUUM
Quickly picks up water, dirt and dust. Quick-draining dump valve eliminates heavy lifting. Mounted on ball bearing, swivel, rubber casters

there is nothing like Clarke equipment. Custodians like Clarke machines because they make work easier and do it faster. You'll like Clarke because it's dependable—built to give years of hard service at low initial and upkeep cost. Let us prove on your own floors why Clarke machines have long been preferred for better floor care. Write for information or a demonstration.

Sales and Service Branches in All Principal Cities

Clarke

CLARKE SANDING MACHINE COMPANY
2212 Clay Street Muskegon, Mich.

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TRUSCON STEEL BOXES just say "Truscon"...

and there's the *box* you need!

Truscon has scores of different types of steel boxes and skids to meet a wide range of materials handling requirements. And if your needs are something special, Truscon has the engineering ability to tailor-make the exact units you require. Truscon's long experience in steel box and skid design . . . Truscon's highly efficient facilities for production and service . . . Truscon's long association with box users in every branch of materials handling . . . these are *plus* features that make your dollar investment in Truscon Steel Boxes and Skids so much more profitable. Write for catalog.

TRUSCON STEEL COMPANY
PRESSED STEEL DIVISION • 6100 TRUSCON AVENUE • CLEVELAND 4, OHIO
SUBSIDIARY OF REPUBLIC STEEL CORPORATION

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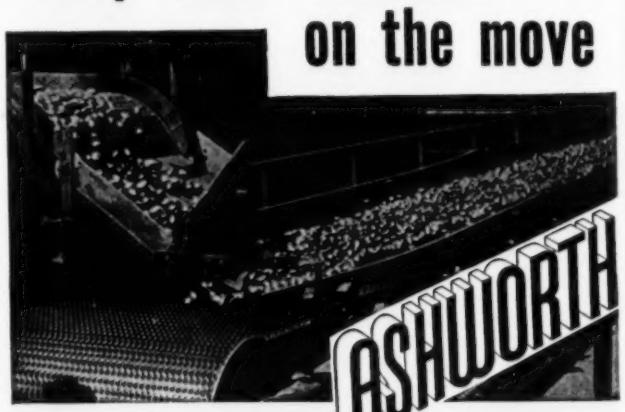
Keep Your Product on the move



METAL CONVEYOR BELTS
can help offset increased production costs by keeping your products on the move . . . increasing your hourly production! The right metal belt for your job means longer operating periods between maintenance shutdowns, longer belt life, greater economy!

Ashworth Engineers and Builds all Types of Wire Belts for Industry.

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METAL PRODUCTS DIV. • WORCESTER, MASS.

Sales Engineers located in Buffalo • Chattanooga • Chicago • Cleveland • Detroit Los Angeles • New York • Philadelphia • Pittsburgh • Seattle
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Latest Design POWERFUL 31 TON BACK-GEARED *Diamond* PUNCH PRESS

STRAIN GAUGE ANALYZED FOR GREATEST FRAME STRENGTH

Strain-gauge analysis, applied for first time to Diamond punch presses, has resulted in more equal distribution of frame strength with maximum resistance to distortion. Cradle mounted, Diamond 31 Ton frame inclines to most convenient position. Other improvements include Micro-Finished surfaces on gibs, slides and bearings, assuring velvet-smooth ram travel with less friction and longer life. Diamond production tolerances are maintained so close that duplicate parts are interchangeable without hand fitting!

*AVAILABLE FOR FIRST TIME . . . A complete technical report on Diamond Strain-Gauge Analysis of Punch Presses and Operations. Every user of punch presses should obtain a copy! Sent free on request with circular featuring 9 - 14 - 30 and 31 Ton Diamond Punch Presses. Write today!

DIAMOND

DIAMOND MACHINE TOOL CO.
DEPT D • 3429 E. OLYMPIC BLVD., LOS ANGELES 23, CALIF.

MANUFACTURERS OF THE DIAMOND LINE OF PRECISION MACHINE TOOLS AND ACCESSORIES

For more details circle NED-9590 on enclosed inquiry slip

JABSCO SELF PRIMING PUMPS

Patented and Patents Pending

the pump with the DUPONT NEOPRENE impeller (oil resistant)

BRONZE, STAINLESS STEEL & IRON CONSTRUCTION —CAPACITY TO 50 GALLONS PER MINUTE

1 **MORE CAPACITY**—for its weight, size and price.
2 **SELF-PRIMING**—starts instantly with high suction lift.
3 **ONE MOVING PART**—tough, long-lived.
4 **GEARLESS**—impeller outlasts metal gears.
5 **TROUBLE FREE**—simple construction.
6 **ECONOMICAL**—low cost—low maintenance.

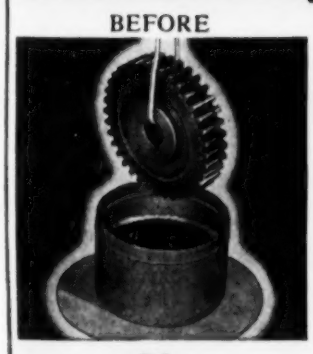
LIQUID TRANSFER AND CIRCULATING FOR ALL INDUSTRIES

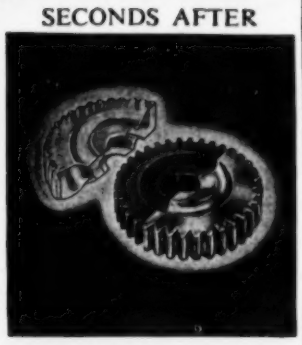
JABSCO PUMP COMPANY
2031 N. Lincoln Street • Burbank, California

For more details circle NED-9591 on enclosed inquiry slip

HOT MELT PLASTIC COATINGS for GEARS • TOOLS • PRECISION PARTS

BEFORE SECONDS AFTER





Dip Coated • Protected

DIP-PAK Protect vital, expensive tools, gears, and machined parts during storage and shipping with Fidelity's durable, transparent plastic coatings. Merely melt coating briquette, dip parts, cool. Lasts indefinitely. Tough; abrasive, moisture, rust resistant. To remove, slit, peel. Re-melt, re-use coating. Economical, practical, rapid. Protect parts; save money.

Write for Bulletins and Free Samples
Fidelity Chemical Products Corp.
476 Frelinghuysen Avenue, Newark 5, N. J.

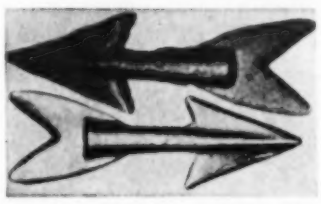
For more details circle NED-9592 on enclosed inquiry slip

SPECIFIC TAPS are stock tools for given materials

Expressly designed for thread cutting in a certain material, specific taps are now available as standard units at same price as general-purpose taps. In ordering, it is only necessary to give the material in which tap is to be used as well as the usual size specifications. Types are offered for such materials as steel, cast iron, aluminum, brass, zinc or plastics. Among factors varied in taps to make them suited for specific materials are flute forms, chamfers and method of heat treatment of the M-11 chrome-cobalt high speed steel used in them. Made by **Detroit Tap & Tool Co.**, 415 Boulevard Bldg., Detroit, Mich.

For more details circle NED-9593 on enclosed inquiry slip

BARREL FINISHING COMPOUND produces uniform metallic colors



Compound No. 1 Double Strength is name of chemical for barrel finishing brass, bronze, copper, gold and silver stampings, castings, machined and drawn parts. Highly concentrated paste produces uniform metallic colors in short time cycles. It can be used for finishing with or without media, and with selected nonferrous media for roughing, deburring, cleaning and finishing in single operation. Made by **Blue Magic Chemical Specialties Co.**, 2137 Margaret St., Philadelphia 24, Pa.

For more details circle NED-9594 on enclosed inquiry slip

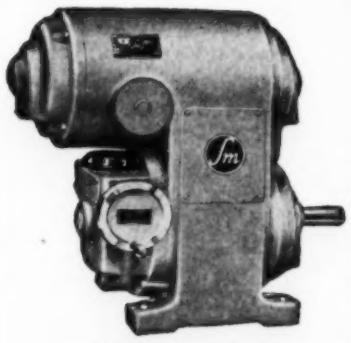
BLAST CLEANING—DUST CONTROL demonstration service offered

To enable potential users to see blast cleaning and dust control equipment in operation, standard machines have been set up and are in actual operation. Demonstration room includes 15-ton Rotoblast monorail machine for blast cleaning such parts as engine cylinder blocks, Hydro-Finish liquid blasting machine, Continuous-Flo Rotoblast barrel for production line blast cleaning of small castings, large Rotoblast room for large castings, 9-ft Rotoblast table, standard Hydro-Finish cabinet, Airblast barrel with unit type dust collector, Airblast cabinet with same type dust collector and portable soft abrasive (corn cob) blast cleaning machine. Potential users can send or bring samples of work to demonstration room for processing. Service instituted by **Pangborn Corp.**, 140 Pangborn Blvd., Hagerstown, Md.

For more details circle NED-9595 on enclosed inquiry slip

power modernization

Even a brand new motor may be obsolete . . . if you do not have control of speed



STERLING **SPEED-TROL**

. . . Gives You Variable Speed Control Necessary For:

• **PROCESS CONTROL OF:** Temperature—viscosity—level—pressure—flow—etc.
• **TIME CONTROL OF:** Baking—drying—heating—cooking—pasteurizing—soaking—chemical action—etc.
• **EQUIPMENT ADAPTATION TO:** Load variation—sequence synchronization. Size—tension—hardness or shape of materials to be processed—machined—conveyed—blended—mixed—etc.
• **VARIATIONS IN:** Quality—quantity—operators' abilities—etc.

Ask for your copy of pictorial bulletin No. A-68, showing Sterling Electric Power Drives Turning The Wheels of Industry

STERLING ELECTRIC MOTORS

Plants: New York 51, N. Y.; Los Angeles 22, California; Hamilton, Canada; Santiago, Chile. Offices and distributors in all principal cities.

For more details circle NED-9596 on enclosed inquiry slip

R&M saves money *coming*

Important time, cost, and work savings, with equipment investment paid off in less than a year, is the R & M story at Automatic Die & Products Co. Their 5-ton R & M Traveling Crane handles as much steel in 45 minutes as previous equipment did in two to three hours. R & M representatives have many such case histories which may help solve your handling problem. Write for Bulletin No. N121D.

and going

For Automatic Die & Products Company

TAKE IT UP WITH

ROBBINS & MYERS INC

HOIST AND CRANE DIVISION, SPRINGFIELD 99, OHIO

For more details circle NED-9597 on enclosed inquiry slip

A case history based on the experience of the International Business Machines Corp., Endicott, N. Y.

With Kodagraph Autopositive Paper— the revolutionary material that produces positive photographic intermediates *directly*; that can be *handled* in room light . . . *exposed* in a direct-process or blueprint machine, or vacuum frame . . . *processed* in standard photographic solutions.

1. **Redrafting time saved.** IBM makes Autopositives of standard plug-board panel drawings on which various wiring arrangements must be shown. To these intermediates, draftsmen simply add the wiring detail . . . and print-making masters are ready.

2. **Blueprints can be reproduced.** These prints are used to exchange design information between IBM plants. Whenever extra prints are needed for the shop, Autopositives are made directly and used to produce the required prints.

3. **Opaques no problem.** Autopositives can be made from charts, graphs, pasteups—even two-sided originals.

With Kodagraph Autopositive Film— which is handled, exposed, and processed like Autopositive Paper, but whose base is famous Kodak safety film – highly translucent, tough, matte-surfaced (to take pen or pencil notations).

4. **Old drawings are restored.** Weak lines are intensified, backgrounds are cleaned up, when IBM reproduces certain types of old drawings on Kodagraph Autopositive Film. As a result, sharp, legible shop prints can be produced at top speeds.

5. **Halftones are copied.** Printed illustrations—including halftones and line sketches—are reproduced faithfully on Autopositive Film. And from these intermediates, the desired number of direct-process prints is run—each sharp, crisp, clear.

Write today for a free copy of "Modern Drawing and Document Reproduction." It gives full facts on the complete line of Kodagraph Reproduction Materials, which you, or your local blueprinter, can process conveniently, economically.

EASTMAN KODAK COMPANY
Industrial Photographic Division
Rochester 4, N. Y.

Kodak

For more details circle NED-9598 on enclosed inquiry slip

NEW JACK LOCATES ON ANCHOR BOLT

Empco JACK STYLE JS

- SELF-ALIGNS TO UNEVEN FLOOR
- EASILY LIFTS 8,000 LBS.
- SIMPLY TURN ADJUSTING NUT TO RAISE OR LOWER MACHINE
- VI-SORB MOUNTING PADS ABSORB VIBRATION

Where anchor bolts are used, this new Empco Jack Style JS will save considerable time in setting and keeping equipment level.
Tested to support 20 tons and lift 8,000 lbs., this Empco Jack is the answer to any machine installations. Anchor bolt hole through the jack assembly allows clearance for ¾" diameter bolt. This permits the Empco Style JS Jack to be used at the *precise spot* where equipment was designed to be best supported.
Available in three sizes: 1¾", 2", and 3" (minimum heights) with VI-SORB mounting pads as optional equipment.
Write for specifications and prices of complete line of Empco Leveling Jacks.

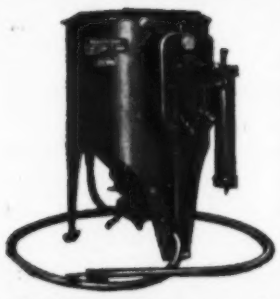
EMPCO PRODUCTS

THE ENTERPRISE MACHINE PARTS CORPORATION
2727 JEROME AVENUE • DETROIT 12, MICHIGAN

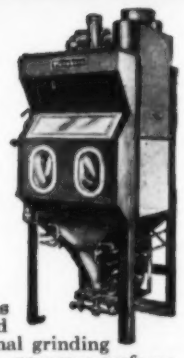
For more details circle NED-9599 on enclosed inquiry slip

Here's BIG NEWS on Blast Cleaning Dust Control Precision Finishing

Blast Cleaning Unit is PORTABLE! Hydro-Finish SPEEDS POLISHING!

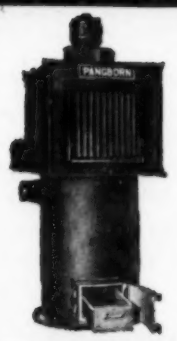


Ideal for maintenance and many other jobs, including removal of rust, dirt, scale, etc. Economically cleans large objects like tanks, bridges, structural work before painting. Six sizes, stationary or portable, from $170.00 and up.



Removes scale and directional grinding lines . . . prepares surfaces for plating and holds tolerances to .0001"! Liquid blast reduces costly hand cleaning and finishing of molds, dies, tools, etc. Models from $1295.00 and up.

STOP DUST at the SOURCE! COMPACT Blast Cabinet for SMALL WORK!



Pangborn industrial type Unit Dust Collectors trap dust at source. Machine wear is minimized, housekeeping and maintenance costs reduced. Solves many grinding and polishing nuisances and material losses. Models from $286.00 up.

Ideal for producing clean, smooth surfaces on pieces up to 60" x 36" in size. Cleans metal parts, removes rust, scale, grime, dirt, paint, etc., in a few seconds. Saves money all year 'round. Models from $315.00 and up.

Look to Pangborn for the latest developments in Blast Cleaning and Dust Control Equipment

Pangborn MAIL COUPON FOR DETAILS

Check for more information
- Blast Cleaning Cabinets
- Blast Cleaning Machines
- Unit Dust Collectors
- Hydro-Finish Cabinets

PANGBORN CORP., 2400 Pangborn Blvd., Hagerstown, Md.
Gentlemen: Please send me more information on the equipment I've checked at the left.
Name.....
Company.....
Address.....
City.....Zone....State.....

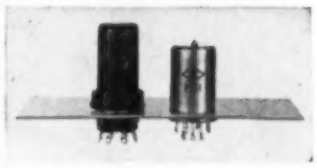
For more details circle NED-9600 on enclosed inquiry slip

BIMETAL DISK THERMOSTATS are sealed against moisture

Applications such as defrost control or cycle termination in which moisture beads are a problem can be served with Underwriters' Laboratories listed quick make and break bimetal disk thermostats. Featuring electrically independent bimetal thermal elements which minimize artificial cycling, thermostats are available in two basic styles. Type MH200 is hermetically sealed unit enclosed in round metal can with neoprene molded over terminals and leads. Type MH100 is enclosed in CR-7 crystal can, and type MH300 covered by molded neoprene enclosure. Units operate on 40-cycle ac and up, and are rated at 15 amp at 115 v and 10 amp at 230 v. Made by **Stevens Mfg. Co.**, Dept. B, 69 S. Walnut St., Mansfield, O.

For more details circle NED-9601 on enclosed inquiry slip

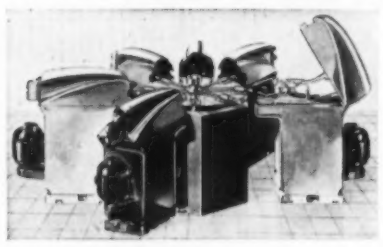
MINIATURE RELAY hermetically sealed aircraft type



Meeting requirements of USAF specification MIL-R-5757, Diamond H four-pole double-throw hermetically sealed miniature aircraft type relays withstand shock from 60 to 64 g. Applications include devices requiring light weight and miniaturization under conditions of high or low temperature, vibration and shock. Against standard vibration requirements of 10 g, relays operate in excess of 40 g. They operate at temperatures −65 to 200° C. Transit time is 1 millisecond. Contact ratings are 2 amp at 28-v dc and 115-v ac, including 400 cycles; inductive, noninductive and motor loading. Mounting arrangements are variable. Made by **Hart Mfg. Co.**, Dept. N, 110 Bartholomew Ave., Hartford, Conn.

For more details circle NED-9602 on enclosed inquiry slip

MICRO-SURFACING MACHINE gives 3 to 4 rms finish in 6 seconds



Fast and accurate micro-surfacing of Jet engine blades and buckets is function of automatic Micro-Lap precision-polishing installation which consists of eight-station hydraulically indexed units. Heads are mounted on floor bases and operate continuously with no pause for indexing. Polishing jaws open automatically to receive and release work. Indexing table carries no weight except blade-holding fixtures and blades being processed. Successively finer grits under flood lubrication produce finish of 3 to 4 rms in 6-second cycle. Cycle and individual station dwell time is adjustable, and head stroke may be changed for different blade lengths. Made by **Murray-Way Corp.**, Birmingham, Mich.

For more details circle NED-9603 on enclosed inquiry slip

IDEAL METAL CUTTING SAW FOR YOUR SHOP!

Kalamazoo BAND SAW

A veritable workhorse in any shop. Cuts bars, angles, tubes, pipe, and rounds with no burr, minimum kerf. Works fast, smooth, and accurately. Uses standard 1/3 HP 110/60/1 motor. Complete portable. Write for details on this low cost metal cutting saw.

Model 610-S. Capacity 6" round, 6" x 10" flat. Coolant equipment available.

MACHINE TOOL DIV. Kalamazoo TANK and SILO CO.
1244 HARRISON ST., KALAMAZOO, MICH.

For more details circle NED-9604 on enclosed inquiry slip

where there's heat . . .

. . . there's a need for instant, accurate reading of surface temperatures to prevent costly damage to materials in process and equipment. The handy Alnor Pyrocon is unequaled for quick, accurate reading of surface temperatures of molds, revolving rolls, bearings, steam traps, plastics, metals and many other materials. It's a well balanced, handy instrument that will stand heavy use, yet perform with laboratory precision. A wide selection of thermocouples and extension arm assures its adaption to your type of service. Send for Bulletin No. 4257. Illinois Testing Laboratories, Inc., Room 529, 420 N. La Salle Street, Chicago 10, Illinois.

send for bulletin now!

Alnor

PRECISION INSTRUMENTS FOR EVERY INDUSTRY

For more details circle NED-9605 on enclosed inquiry slip

Carter CUTS COSTS WAY DOWN!

CARTER GUIDE LINE LIGHTS

Carter Guide Line Lights throw a straight, black shadow-line across the work. Your guiding light to quick, accurate straight line sawing. Applicable whenever a guide line is needed.

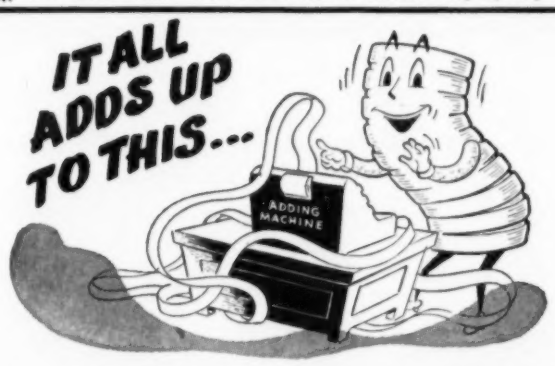
Write — For free illustrated folders

Carter Guide Line Lights are used for straight line sawing in leading plants of all kinds everywhere.

CARTER PRODUCTS COMPANY INC.
69 Mount Vernon Ave., N. W., Grand Rapids 4, Michigan

For more details circle NED-9606 on enclosed inquiry slip

IT ALL ADDS UP TO THIS...



There's Only One Universal Interlocked Asbestos Packed Flexible Metal Hose

For the conveyance of materials at high temperatures and high pressures — *Universal's* Interlocked Asbestos Packed Flexible Metal Hose deserves your consideration because . . .

1. INTERLOCKED ASBESTOS PACKED CONSTRUCTION — provides greater than average service life under severe conditions of high internal pressures and temperatures.

2. ADVANCED DESIGN — of Universal Flexible Metal Hose can only mean long top operating economy on the toughest jobs.

and this is important . . .

Universal Interlocked Asbestos Packed Flexible Metal Hose is available in various weights in practically any workable metal. A wide range of sizes is offered.

Universal Metal Hose Catalog U—101 will give you many suggestions on types and application of flexible metal hose. Send for your copy today — and send along your specifications for recommendations without obligation.

UNIVERSAL METAL HOSE CO.
2155 S. Kedzie Ave. Chicago 23, Ill.

For more details circle NED-9607 on enclosed inquiry slip

IT has dry air-itis . . . dried out, cracked at the creases, strength reduced. It's no longer a suitable shipping container. Low wintertime humidities are hard on all of your paper boxes and packaging materials.

Moreover, dry air causes warping, wavy stock, off-register printing and scoring troubles.

Automatically controlled humidification with economical Armstrong Steam Humidifiers prevents all this simply by adding steam directly to the air. They often repay their cost in one heating season. Available from stock, ready for easy installation. Write today.

SEND FOR BULLETIN 1772
Complete information includes illustrations, diagrams, data, prices, etc. Write:

ARMSTRONG MACHINE WORKS
819 Maple Street • Three Rivers, Michigan

For more details circle NED-9608 on enclosed inquiry slip

BREEZE Job-Engineered BELLOWS

ANOTHER BREEZE MARK PRODUCT

. . . Give LASTING PROTECTION Where Ordinary Bellows Fail

Breeze welded diaphragm bellows meet the operating life cycle of any equipment in which they are used *because every Breeze bellows design is individually engineered and built for the job.*

Breeze has no "stock bellows," but if you have a vibration problem in ducts, large or small, or want permanently sealed valve enclosures in any type of piping system, or need bellows for torque transmission or other uses, Breeze experience can quickly provide the answer . . . and production can meet your requirements.

A Breeze bellows is dependable because each diaphragm is designed to work well within its elastic limit. This is accomplished by thorough analysis of each application and careful design of the bellows to withstand all requirements. "Job engineering" each individual type eliminates makeshifts, assures efficient performance.

Breeze bellows are made in stainless steel, inconel, monel, nickel, steel, or other weldable alloys.

Feel free to consult us without obligation on your existing bellows requirements, or any other project where reliable welded diaphragm type bellows might solve a design problem.

BREEZE CORPORATIONS, INC.
41-V S. Sixth St., Newark 17, N.J.

OTHER BREEZE PRODUCTS: ACTUATORS · RADIO SHIELDING · AERO-SEAL HOSE CLAMPS

For more details circle NED-9609 on enclosed inquiry slip

Eastern offers a complete line of PORTABLE MIXERS from 1/20 to 5 HP and a variety of speeds and motor enclosures. They can solve your mixing problem at lowest cost. EASTERN'S NEW MIXER CATALOG 500 GIVES COMPLETE MIXER SELECTION INFORMATION, WRITE TO DEPT. RB

Eastern INDUSTRIES INC.
REGENT ST. EAST NORWALK, CONN.

For more details circle NED-9610 on enclosed inquiry slip

BULLETIN BOARD
flock covers 18 x 24-in. surface

Deep rayon flock covers ½-in. thick composition board surface of this Pin-Up bulletin board, suitable for various uses. The 18 x 24-in. board holds thumb tacks firmly and has title heading and border trim of red, green, blue or tan. Boards are prepackaged in corrugated container. Distributed by **Bettercraft Co.**, Dept. NE, 311 N. Desplaines St., Chicago 6, Ill.

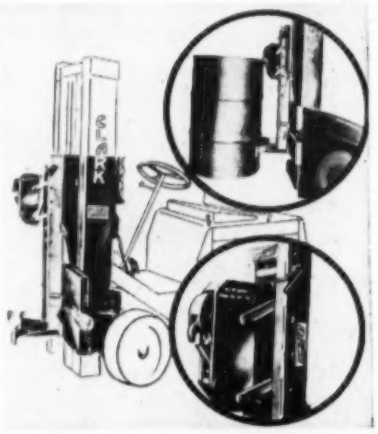
For more details circle NED-9611 on enclosed inquiry slip

DESSICATOR HOLDER
affords safety from breakage

Vacuum desiccators up to 160 mm ID can be used with safety when enclosed in Junior size Desiguard comprised of two cylindrical portions enclosing glass object. Lower half has solid surface to retain liquids that might spill in event of breakage, while upper part is perforated to relieve any inward or outward pressure. Opening in top permits desiccator neck and stopcock to protrude. Aluminum guard has handles for carrying safety unit with desiccator. It has 8-in. diameter and 9-in. height. Made by **Fisher Scientific Co.**, 715 Forbes St., Pittsburgh 19, Pa.

For more details circle NED-9612 on enclosed inquiry slip

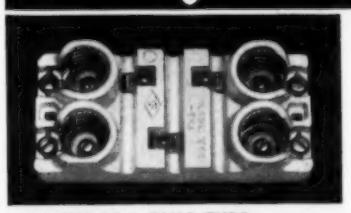
DRUM HANDLING ATTACHMENT
can be installed on any make truck



Any fiber or steel drum, regardless of diameter, height or bead or rim size can be handled by Liftomatic attachment for power trucks. It can be installed on any make truck by one person in a few minutes. Mechanical and automatic in operation, device requires no power controls as pick-up and release are effected through raising or lowering truck cylinder. Transportation, tiering and exact placement are possible. Made by **Marvel Industries, Inc.**, 2224 Cleveland St., Evanston, Ill.

For more details circle NED-9613 on enclosed inquiry slip

low cost maintenance for high cost circuits



SHAWMUT DIAMOND S CUT-OUTS

CARTRIDGE & PLUG TYPE.
Supplied as standard above 30 amps with Shawmut SHUR-GRIP pressure connectors and spring action fuse clips. Available in Porcelain, Black Molded Composition and Slate. Single Double and Triple Pole types. Also, 3-wire with 2 branches; Fused and Unfused Neutral; Special Live Front type. Ask for Bulletin #507.

Shawmut FUSE TERMINALS
National Electrical Code Standard
Ask for Bulletin No. 508.

Shawmut CLIP LOCK CLAMPS
No tools are required
Ask for Bulletin No. 511.

Shawmut FUSE CLIPS
National Electrical Code Standard
See Bulletin No. 508.

Shawmut FUSE PULLERS
Two sizes—Pocket and Giant
See Bulletin No. 511.

Shawmut WIRE LUGS
N. E. Code Standard to 600 Amperes inclusive.
Send for Bulletin No. 508.

Shawmut TESTED FUSE WIRE, RIBBON & LINKS
Standard for the industry.
Ask for Bulletin No. 509.

Famous for quality since 1893, Chase-Shawmut products set standards for the industry. Count on them for positive protection whenever maintenance is required.

THE CHASE-SHAWMUT CO.
382 MERRIMAC STREET • NEWBURYPORT, MASSACHUSETTS

For more details circle NED-9614 on enclosed inquiry slip

On-the-job servicing of Hansen Tackers is speeded up by the Take-up Jaw. Quick as a flash it opens or closes and provides for cleaning and reassembly—in seconds!

Wherever tacking or fastening operations are required, use Hansen with its time-and-money-saving features. What is your problem?

REQUEST BOOKLET.

A. L. HANSEN MFG. CO.
5060 Ravenswood Ave.
Chicago 40, Ill.

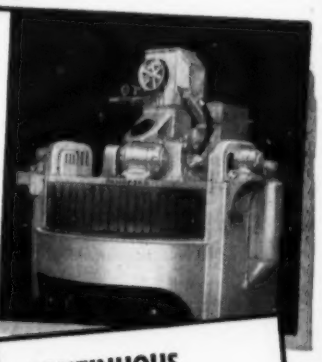
Hansen ONE-HAND TACKERS

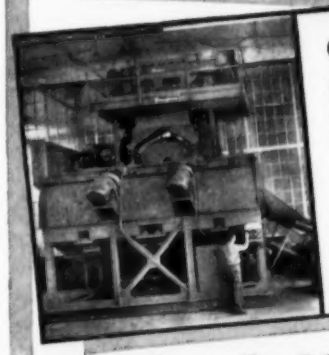
For more details circle NED-9615 on enclosed inquiry slip

Let PANGBORN Solve your Blast Cleaning Problem!

BATCH Cleaning: For top-economy batch cleaning specify Pangborn ROTOBLAST* Barrels. Sizes available from 3½ to 28 cubic feet. All models have push-button operation, automatic abrasive recovery and automatic loading device.

SEMI-CONTINUOUS Cleaning: Specify Pangborn ROTOBLAST* Tables. Type LF cleans flat castings; type LG cleans intricate pieces. Type LH, with two tables, lets operator load one table while work is cleaned on the other.





CONTINUOUS Cleaning: Pangborn Continuous-Flo ROTOBLAST* Barrels and one man provide uninterrupted cleaning. Loading and unloading is automatic, work is cleaned as it moves through Barrel.

Pangborn offers ROTOBLAST* equipment for every cleaning need. Full details on Tables, Barrels, Table-Rooms and Rooms are included in Bulletin 214. For your free copy *Mail Coupon Today!*

Look to Pangborn for the latest developments in Blast Cleaning and Dust Control equipment.

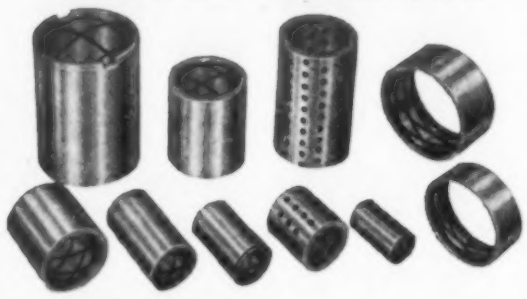
Pangborn *Trademark of Pangborn Corporation

BLAST CLEANS CHEAPER with the right equipment for every job.

PANGBORN CORP., 2400 Pangborn Blvd., Hagerstown, Md.
Gentlemen: Please send me Bulletin 214 without obligation.
Name.....
Company.....
Address.....
City.....Zone.....State.....

For more details circle NED-9616 on enclosed inquiry slip

GRAPHITED OIL-LESS BRONZE BEARINGS



GRAPHITED — Only PURE GRAPHITE is used, with a specially developed and tenacious binder.

OIL-LESS — Requires no further lubrication during the life of the bearing.

PRESSURE — The Graphite Composition is applied under pressure by hydraulic or other adequate means, then baked at high temperature for permanence.

IMPREGNATED — Impregnated in such a manner as to secure complete surface coverage, giving the working effect of a metal saturated with lubricant.

BRONZE BEARINGS, INC.
340-344 NORTH AVENUE — EAST
CRANFORD, N. J.

For more details circle NED-9617 on enclosed inquiry slip

AGASTAT TAKES TIME OUT TO RELAY THE SEASON'S GREETINGS

AMERICAN GAS ACCUMULATOR COMPANY • 1027 Newark Ave., Elizabeth 3, N. J.

For more details circle NED-9618 on enclosed inquiry slip

Aerovent FAN EXTENDED SHAFT FAN

KEEPS MOTOR OUT OF AIR STREAM

Extended shaft may be water jacketed, if desired. Sizes 12" to 84". 2, 4 or 6 Blades.

For industrial applications where it is desired to keep the motor out of the air stream to meet Underwriter's specifications for exhausting explosive vapors. It protects the motor from high temperature air, corrosive fumes, or combination of obnoxious fumes and moisture.

Certified Ratings — PFMA

Other Models

Direct Connected, Man Cooling, Duct Type, Belt Driven, Pulley Driven. Sizes 12" to 144".

Write today for

ENGINEERING BULLETIN

AEROVENT FAN CO., INC.
ASH and BROWN STREETS, PIQUA, OHIO
Competent Sales Engineers in Principal Cities

For more details circle NED-9619 on enclosed inquiry slip

SADDLE STOP SOLENOIDS
plunger action is silent

Applications where elimination of noise and freedom of contamination are required can be served with 3K-300 saddle stop type solenoids. They have leather faced retainer stop and hood arranged to act as guide and silencer to plunger movement. Design allows easy changing of coils to accommodate different voltages and frequencies. Stellite-Weld bonding of plunger laminations at sides and point of impact is added feature. Solenoids are available with ¼, 5/16, ⅜ or 1½-in. strokes; from 2½ to 14 lb, push or pull; windings for either alternating or direct current operation; and with base or side mountings. They are furnished standard or specially engineered by **National Acme Co.**, 174 E. 131st St., Cleveland 8, O.

For more details circle NED-9620 on enclosed inquiry slip

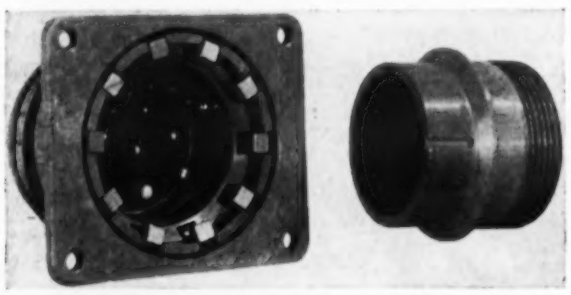
STRIP TYPE PLASTIC PACKAGES
polyethylene bags made in roll form

Polyethylene Oto-Strip bags in sizes ranging from 1 x 1 in. to 5 x 6 in. are offered in continuous strip form on rolls. Positive seal lines on either side of perforations between each bag or pocket assure tight package. Parts are packaged by feeding them into bags and sealing. One or more parts can be torn from strip as required. Stock keeping and packaging are simplified. Made by **Better Bags, Inc.**, Dept. ND, 840 N. Sixth St., Philadelphia 23, Pa.

For more details circle NED-9621 on enclosed inquiry slip

BREAKWAY COUPLING
for quick electrical disconnecting

When pull from 10 to 40 lb is exerted, this electrical breakway coupling disconnects automatically. Amount of spring tension is predetermined by built-in coiled



spring. Series of movable fingers around circumference of one-half of coupling accomplish separation and union. Any normally required number of wires can be fitted into parts of coupling which is moistureproof and capable of withstanding 750 psi. Made by **E. B. Wiggins Oil Tool Co.**, Dept. NED, 3424 E. Olympic Blvd., Los Angeles 23, Calif.

For more details circle NED-9622 on enclosed inquiry slip

TOUGH NEW WORK GLOVE with a TOUGH NEW COATING

SILVEREX

These toughies will save you money, keep all hands cooler. Silvery coating reflects moderate heat radiation, resists cuts, snags, abrasion, and chemicals, won't crack or peel. Curved finger design, swing thumb, all standard styles.
Write for name of your distributor. Dept. N

THE SURETY RUBBER CO. 100 Hall Avenue Carrollton, Ohio

IN CANADA: Safety Supply Company, Toronto, Ontario

For more details circle NED-9623 on enclosed inquiry slip

helpful HYDRAULIC PRESS catalog

75 STANDARD MODELS 5 TO 150 TONS

Keep it in your machine tool file. Hannifin Standardized Hydraulic Presses Catalog contains complete descriptions and specifications on Hannifin Forcing Presses, Straightening Presses, Column-Type Presses. Hannifin Corporation, 1127 S. Kilbourn Ave., Chicago 24, Ill.

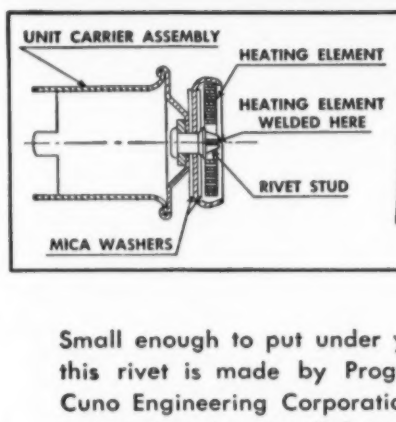
do ALL you CAN do . . . with

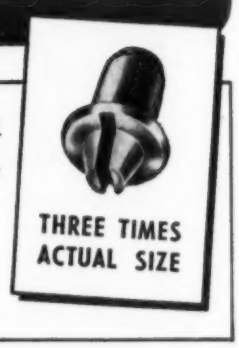
HANNIFIN

Air Cylinders • Hydraulic Cylinders • Hydraulic Presses
Pneumatic Presses • Hydraulic Riveters • Air Control Valves

For more details circle NED-9624 on enclosed inquiry slip

RUGGED LITTLE RIVET HAS TWO BIG JOBS





Small enough to put under your fingernail, this rivet is made by Progressive for The Cuno Engineering Corporation. Used in an automotive cigarette lighter, it serves as a post to which the center of the heating coil is spot welded and as a rivet for fastening the burner cup to the lighter shell.

This double function required precise upsetting of a metal sufficiently soft to be used as a rivet, yet rugged enough to withstand the welding operation.

At Progressive, we welcome special jobs like these. It's our business and we're good at it. See Progressive—if it's a SPECIAL.

WRITE FOR OUR CATALOG
IT MAY SAVE YOU MONEY

Other typical PROGRESSIVE *"Specials"*

QUALITY PROMCO BRAND

THE PROGRESSIVE MANUFACTURING COMPANY
46 NORWOOD ST., TORRINGTON, CONN.

SALES OFFICES: SAN FRANCISCO, LOS ANGELES, PORTLAND, DETROIT, PHILADELPHIA, CLEVELAND, SEATTLE, BOSTON, SYRACUSE, ST. LOUIS, CHICAGO.

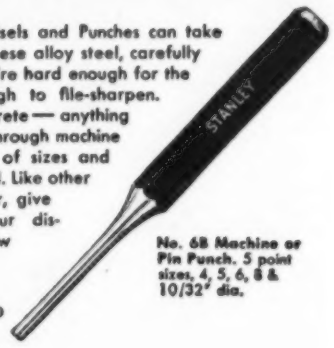
For more details circle NED-9625 on enclosed inquiry slip

Tough as they make 'em

No. 74 "Straight Cut" Hand Chisel. 8 sizes from ¼" to 1".

STANLEY Cold Chisels and Punches

That's right! Stanley Cold Chisels and Punches can take it. Forged from silicon manganese alloy steel, carefully tempered and hardened, they're hard enough for the toughest job, yet soft enough to file-sharpen. Chisels cut rivets, steel, concrete — anything not tempered; Punches drive through machine steel. Made in a full range of sizes and types for every industrial need. Like other Stanley Tools they last longer, give more work value. See your distributor. Stanley Tools, New Britain, Connecticut.



No. 68 Machine or Pin Punch. 5 point sizes, 4, 5, 6, 8 & 10/32" dia.

THE TOOL BOX OF THE WORLD

STANLEY

Reg. U.S. Pat. Off.

HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL

For more details circle NED-9626 on enclosed inquiry slip

Jacketed Pumps

for handling viscous materials

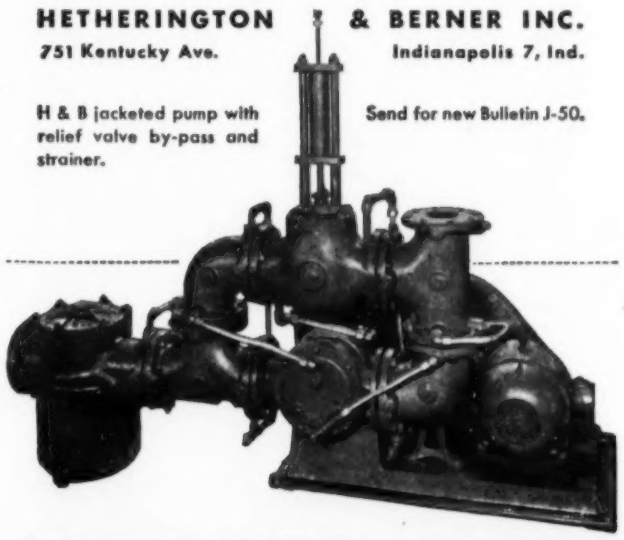
Pumps for H & B Jacketed Systems are made especially for us to fit the flanges of H & B jacketed fittings. These pumps are engineered to provide maximum efficiency in handling viscous materials. H & B fittings are designed with a double wall forming an all-over jacket, completely insulating the interior line, with no dead spots or unprotected places.

HETHERINGTON & BERNER INC.

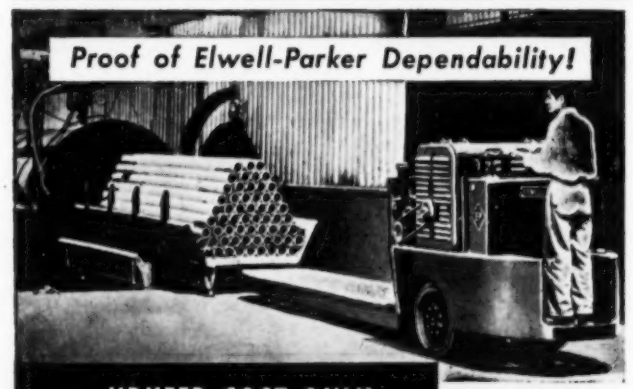
751 Kentucky Ave. Indianapolis 7, Ind.

H & B jacketed pump with relief valve by-pass and strainer.

Send for new Bulletin J-50.



For more details circle NED-9627 on enclosed inquiry slip



UPKEEP COST ONLY $3.36 PER TRUCK-MONTH!

This Elwell-Parker with a 144" low-lift platform loads and unloads autoclaves.

At a processing plant, one Elwell-Parker industrial truck has carried an average of *660 tons in 24 hours —six days a week for over 28 months!* Another E-P truck has already seen 35 months of service. During the total of 63 truck-months, cost of parts and tires was $211.64. Thus upkeep cost averaged just $3.36 per month . . . "We are *pleased indeed* with this equipment," reports the plant manager. The order of a third Elwell-Parker is further evidence of customer satisfaction.

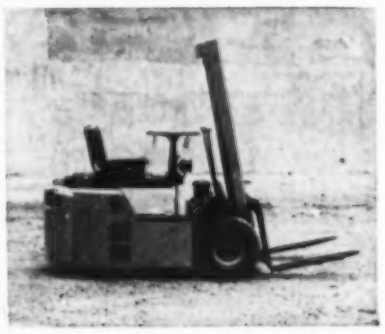
FREE BOOKLET *fully explains scientific materials handling. Ask for "Industrial Logistics".*

THE ELWELL-PARKER ELECTRIC COMPANY

4097 St. Clair Avenue • Cleveland 3, Ohio

For more details circle NED-9628 on enclosed inquiry slip

FORK LIFT TRUCK
optional counterweight ups capacity



Changes in upright assemblies and load arm pins in redesigned model 20 lift truck permit use of optional additional counterweight, thus increasing or decreasing load center or load capacity. Standard model with 2000-lb capacity at 15-in. load center is available with optional three-piece counterweight which brings capacity up to 2000 lb at 24-in. center. Counterweights bolt to rear of machine and add 2½ in. to length. Also available is skeleton integral conuterweight (installed at factory) which gives truck capacities of 1300 and 1000 lb at 15 and 24-in. load centers. This arrangement reduces truck weight by 600 lb. Made by **Hyster Co.**, 2906 N. E. Clackamas St., Portland 8, Oreg.

For more details circle NED-9629 on enclosed inquiry slip

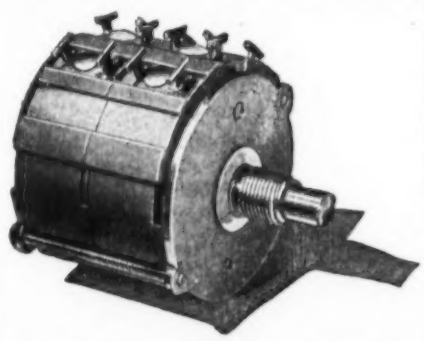
HEAT RESISTANT PAINT
air dries in about ½ hour

Capable of withstanding temperatures up to 1700° F, improved H-170 Heat-Rem high heat resistant aluminum paint air dries in approximately 30 minutes. It uses silicone base and is reported to fuse with surface of metal to which it is applied. Bright, elastic finish is resistant to moisture, corrosion, mild acids, alkalies and industrial fumes. Paint is recommended for use on heat lines, condensers, compressors, ovens, engine heads, mufflers, stacks and exhaust manifolds which operate in temperature range of 1000 to 1500° F. Made by **Speco, Inc.**, Dept. RSA, 7308 Associate Ave., Cleveland 9, O.

For more details circle NED-9630 on enclosed inquiry slip

POTENTIOMETER
controls from 2 to 20 circuits

Simultaneous control of from 2 to 20 circuits or functions is possible with series 42A potentiometer encased in mineral-filled Bakelite housing. It locks together with similar units to form single tandem assembly. Contact arm of each unit is adjusted on common shaft that slips through all sections. Mechanical rotation can be continuous or limited. Electrical rotation of 345 degrees can be adjusted to within plus or minus 1 degree. Special requirements allow increase to 359 degrees. Resistance range for each unit is 100 to 100,000 ohms for linear windings. Tapered windings are available. Made by **Clarostat Mfg. Co.**, Washington St., Dover, N. H.



For more details circle NED-9631 on enclosed inquiry slip

SPEED UP SMALL PARTS ASSEMBLY

Parts feed automatically toward front—end reaching and fumbling.

Bins taper toward front to form convenient semicircle —keep all bins within easy reach.

Stacking, locking construction for rigid set-ups, easily changed when necessary.

All-welded construction. Smooth, folded edges.

New-design, adjustable hoppers provide increased capacity and permit regulated flow of parts according to sizes and weights.

Two-sizes—tapered or straight sides.

IMMEDIATE DELIVERY

Manufactured and sold in Canada exclusively by Wickware-Stackbin, Ltd., Ottawa

Write Stackbin Corp., 1081 Main Street, Pawtucket, R. I.

STACKBIN SYSTEM

"Stacked and Still Accessible"

For more details circle NED-9632 on enclosed inquiry slip

Welding lots of Different pieces or lots alike...

This Positioner Increases Production... Improves Welds Cuts Rod Waste

This universal table top makes the Worthington Welding Positioner as profitable on *job* work as in mass production.

Those "T" slots make the table adaptable to any shape of work piece and a wide range of sizes. No special jigs or fixtures needed.

Result—up to 50% more footage, better welds (using higher current and heavier rods), less welding rod waste.

Welding positioner capacities from 100 lbs to 30 tons. Also: turning rolls from 3 to 150 tons, stationary or self-propelled.

Write Worthington Pump and Machinery Corporation, Dunellen, New Jersey, for bulletins or additional information.

Y.1.5

WORTHINGTON

WELDING POSITIONERS

For more details circle NED-9633 on enclosed inquiry slip

LET'S GO TO WORK ON YOUR LIQUID HANDLING PROBLEMS

FOR FAST FILLING OF OIL CANS

FOR SAFE . . . CLEAN . . .SPACE-SAVING . . . MEASURED LIQUID HANDLING

FOR RAPID MACHINE SUMP FILLING AND DRAINING

• Bowser liquid handling engineers are trained to analyze the operations of your plant objectively and suggest cost-reducing changes. There is one in your vicinity who will gladly make this study for you without obligation. May he call?

Mail the coupon for prompt action.

LIQUID CONTROL SPECIALISTS SINCE 1885

BOWSER

MAIL TODAY

BOWSER, INC., 1381 Creighton Ave., Fort Wayne 2, Ind.
Have your liquid handling engineer contact us.

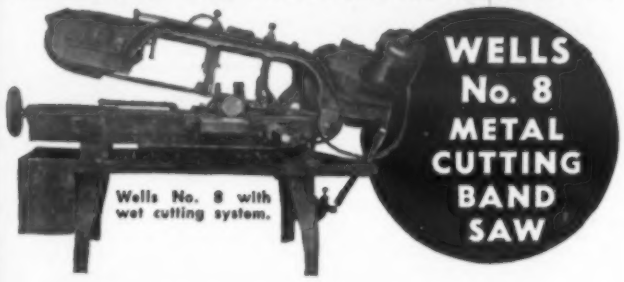
NAME_____

COMPANY_____

ADDRESS_____

For more details circle NED-9634 on enclosed inquiry slip

On cut-off jobs . . . *This is the saw that* SAVES TIME . . . MONEY . . . MANPOWER



Whether it's for production, general utility or both, the Wells No. 8 is an investment that will pay for itself many times over in savings of time, money and manpower. These savings can mean a lot in any shop . . . why not find out what they can mean to you. The Wells No. 8 has a capacity 8" x 16", rectangular, 8" diam., rounds. It is powered by a heavy duty 1/2 H.P. motor. Other sizes also available. See your Wells Dealer for further information or write for literature.

Wells SAWS

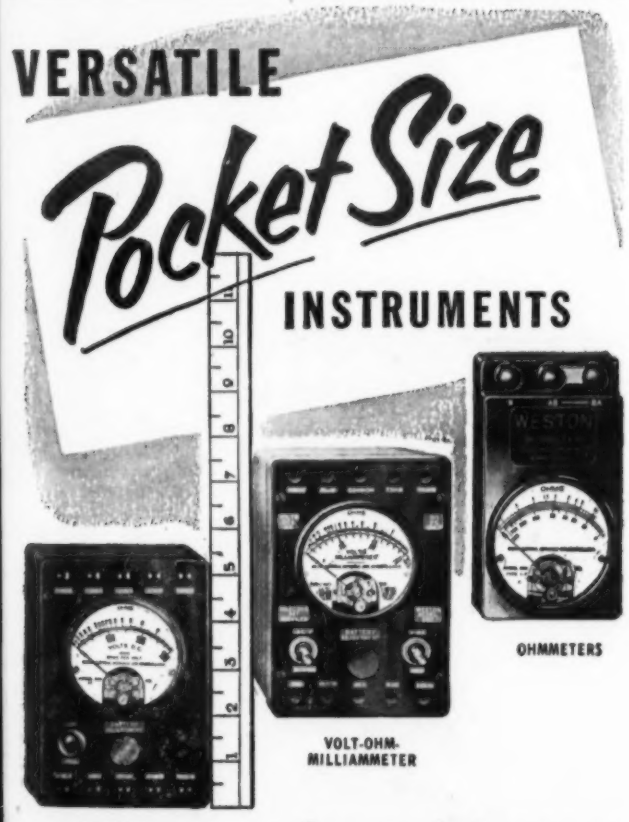
Products by Wells are Practical

Wells METAL CUTTING BAND SAWS

WELLS MANUFACTURING CORPORATION
1313 HARDING ST., THREE RIVERS, MICHIGAN

For more details circle NED-9635 on enclosed inquiry slip

VERSATILE *Pocket Size* INSTRUMENTS



—for maintenance —for product testing

Extremely compact, yet packed with values for broad flexibility in service, these popular WESTON testers are favorites for checking electrical components . . . for production line testing . . . and for final inspections. Ideal for maintenance, too, because they offer true WESTON dependability and ruggedness in convenient size. Available now in limited quantities through your local WESTON representative, or, WESTON Electrical Instrument Corporation, 615 Frelinghuysen Avenue, Newark 5, New Jersey.

VOLT-OHMMETER—MODEL 564
Ranges—3/30/300/600 volts d-c (1000 ohms per volt).
Resistance—Full scale 1000/10,000/100,000/1,000,000 ohms.

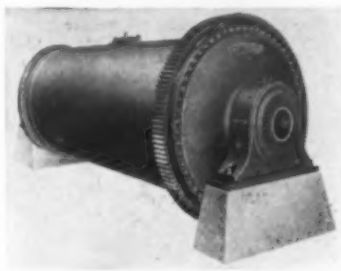
VOLT-OHM-MILLIAMMETER—MODEL 697
Ranges—0-7.5/15/150/750 a-c and d-c (1000 ohms per volt).
Current—0-7.5/75 milliamperes d-c.
Resistance—Full scale 5000/500,000 ohms. Center scale 35/3500.

OHMMETERS—MODEL 689
Ranges—Type 1-E—double range 0-5000 and 50,000 ohms, full scale.
Type 1-F—double range 0-10 and 0-1000 ohms, full scale.

WESTON *Instruments*

For more details circle NED-9636 on enclosed inquiry slip

BALL OR TUBE MILL for fine, coarse, wet, dry grinding



Usable for pulverizing chemical and ceramic raw materials, minerals and many finished products, this heavy duty continuous ball or tube mill is adaptable to fine or coarse, wet or dry grinding. Mill can be used to deliver finished products or can be operated with classifying equipment of various types. Hollow trunnions are provided for continuous feed and discharge. Linings of buhrstone or acid resistant Porox blocks can be used. Standard mill sizes range from 2-ft diameter by 2 ft long to 10-ft diameter by 24 ft long. Made by **Patterson Foundry & Machine Co.**, 123 Helene Ave., East Liverpool, O.

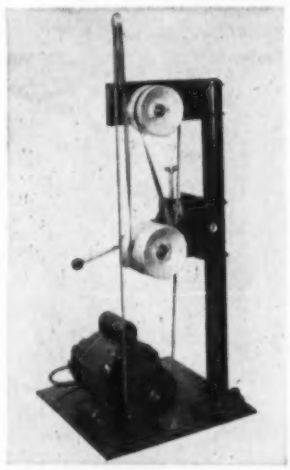
For more details circle NED-9637 on enclosed inquiry slip

PRECISION CHUCK combination collet and finger type

Floating three-point action, self-centering design and fast manual operation are features of Stack precision chuck, a combination collet and finger type unit which has fewer working parts than standard models. It is usable on lathes, Boreematics, mills and grinders. Standard 10-lb model has 4, 5 or 6-in. jaws. Distributed by **Crodian & Co.**, 1455-A Brookside Parkway, N. D., Indianapolis 1, Ind.

For more details circle NED-9638 on enclosed inquiry slip

ABRASIVE BELT SANDER for inside grinding and polishing



This coated abrasive belt sanding unit is adaptable to either free-running or platen-blacked coated abrasive belt operations on such items as bomb straps, horn rings, gas tank necks and tin snips. Designed for inside diameter sanding, grinding and polishing work, Tongue Sander is assembled from standard available parts. Machine uses nose pulley bearings ranging in width from 11/32 to 9/16-in. and from 7/8 to 1 3/8 in. OD. Illustrated sander has 7/8-in. nose pulley with crown ground into outer race to facilitate belt tracking. It is driven by 1725 rpm, 3/4-hp fully enclosed motor with 5 1/2-in. pulley which generates 2600 sfpm belt feed. Approximate cost of assembling machine is $135. Construction details offered by **Behr-Manning Corp.**, P. O. Drawer 808, Troy 1, N. Y.

For more details circle NED-9639 on enclosed inquiry slip

TAKE ADVANTAGE of the inherent benefits of the *Curvacore* transformer and save money. The *Curvacore* transformer combines the wound-type core with new insulation techniques. Result: a smaller and more compact core with all-around improvements which will increase operating economies.

In addition to *Curvacore* transformer design benefits, you still get *Spra-Bonderized* tanks with a highly protective 3-coat baked-on finish of alkyd-resinous paint, simplified high-voltage angle bushings with handy chuck-type connectors, sturdy tank construction and high quality craftsmanship throughout.

For more information about this new efficient transformer ask for Bulletin 61B7641. Allis-Chalmers, Milwaukee 1, Wisconsin. A-3490

Curvacore is an Allis-Chalmers trademark.

ALLIS-CHALMERS

For more details circle NED-9640 on enclosed inquiry slip

Get DRY AIR from your compressor!

WESTINGHOUSE TYPE "W" WATER-COOLED AFTERCOOLER

Easily installed . . . delivers *dry* compressed air for paint spray, laundry equipment, controls, dental laboratories and other applications. Central water-cooled core is high-efficiency spined copper tubing within 2 1/2 O.D. steel tubing with brass header. Water connections at end, air connections at top, drains at bottom of headers. Drain cock or automatic drain valve optional. Three sizes . . . for 1 1/2 and 2 HP, 3 and 5 HP, and 7 1/2 and 10 HP compressors. Write for Bulletin 9460-21 and name of nearest distributor.

INDUSTRIAL PRODUCTS DIVISION — WESTINGHOUSE AIR BRAKE COMPANY WILMERDING, PENNA.

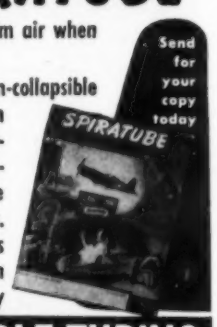
Factory Branch: Emeryville, Calif. • Distributors throughout the United States . . . Consult your Classified Directory • Distributed in Canada by: Canadian Westinghouse Co., Ltd., Hamilton, Ontario

For more details circle NED-9641 on enclosed inquiry slip

. . . USE efficient low-cost **SPIRATUBE**

You can help speed up production by giving him air when and where needed.

Retractable, durable, efficient, light-weight, non-collapsible Spiratube follows him around corners, down shafts, above and below decks, into out-of-the-way places . . . BLOWING OR EXHAUSTING. Designed for maximum air passage. Sections couple tight, fast, for permanent or portable service. Spiratube fits into present systems. Standard sizes for all requirements immediately available from well-stocked distributors—Coast-to-Coast. Used by leading public utilities, shops, mines, shipyards, and industry everywhere.



Also Makers of
AYRTUBE
FLEXFLYTE
THERMATUBE
Literature Available Write Dept. F-12

FLEXIBLE TUBING CORPORATION
MADE IN U.S.A.
SPIRATUBE *REG. U.S. PAT. OFF.
GUILFORD, CONNECTICUT, U.S.A.
Western Office: 416 Citizens Bank Bldg. PASADENA 1, CALIFORNIA

5-L-2A

For more details circle NED-9642 on enclosed inquiry slip

Improved 20 Ways

Setting new high standards of durability and performance. New door makes loading quicker and easier . . . cannot be snapped open in use. Other parts improved and strengthened. Plated to resist rust. Accelerated action drives 1/4" and 3/8", or 1/2" staple all the way home into hard or gummy wood — with a single blow. One-hand operation leaves other hand free to hold work in position. Three times faster than hammer and nails. WRITE FOR BULLETIN 270. BOSTITCH, 728 Mechanic St., Westerly, Rhode Island.

BOSTITCH® fastens it better, AND FASTER with wire

ALL TYPES OF MACHINES FOR APPLYING STAPLES
ALL TYPES OF STAPLES APPLIED BY MACHINES

For more details circle NED-9643 on enclosed inquiry slip

Illustrated above shows how an Ohio HSO Speed Reducer operates a single end drive on a Multi-Duty Automatic Air Filter manufactured by the American Air Filter Co., Inc.

Photo at right shows a 2 section unit and position of single end drive.

There are many manufacturers whose names are not familiar to the consumer public, but whose companies are indirectly contributing to their acceptance of the nation's greatest products.

Such is the case of Ohio Gear in supplying Speed Reducers to the American Air Filter Co., Inc., of Louisville, Ky., the world's largest manufacturer of air cleaning and dust control equipment. American Air Filter ship their products thousands of miles from the factory, including foreign ports in Mexico, South America, Europe, South Africa, India and Australia.

It takes a lot of faith and confidence in a Speed Reducer to keep your product and good name operating at such great distances. Protect YOUR product and operation with Ohio Speed Reducers and Ohio Gears.

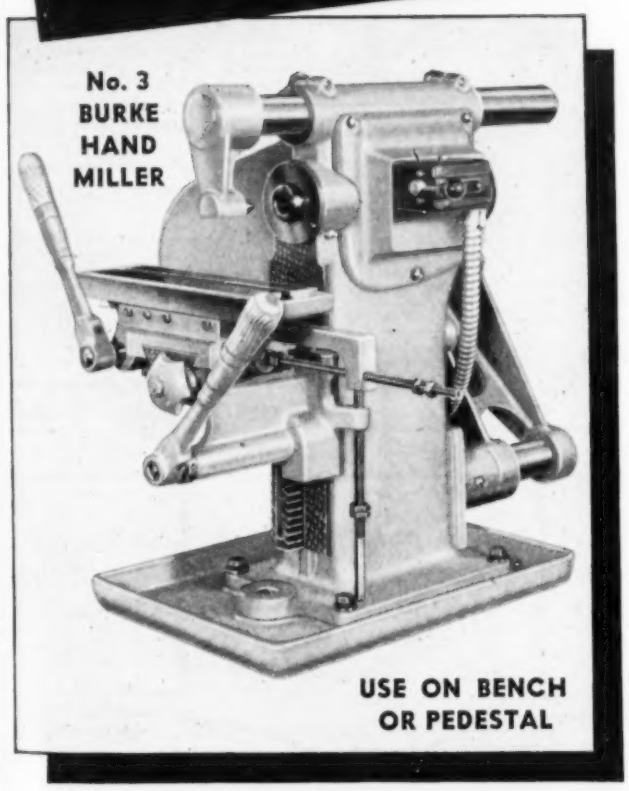
ESTABLISHED 1915
THE OHIO GEAR COMPANY
1320 EAST 179th STREET • CLEVELAND 10, OHIO

OHIO GEARS

For more details circle NED-9644 on enclosed inquiry slip

Rugged! Rigid! Accurate! Economical!

LOW COST OPERATION
HIGH PRODUCTION
MILLING MACHINES



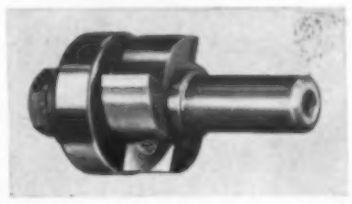
Send for circular describing various models of power and hand feed millers and attachments.

The BURKE MACHINE TOOL CO.

A Division of the U. S. Burke-Machine Tool Co.
East 72nd Street Cincinnati 16, Ohio

For more details circle NED-9645 on enclosed inquiry slip

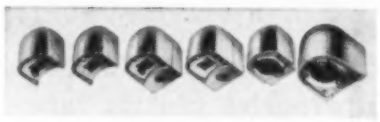
FLUSH JOINTING TOOL
finishes laminated plastic surfaces



Flush jointing operations performed on laminated plastic tops can be carried out on portable hand router machines with this flush jointing tool. Carbide-tipped finishing tool has ball bearing guide which prevents "digging" into finished top and eliminates burns and scratches when plastic edging strips are used. It is usable also as frizzing tool for solid plastic parts. Tool is made in 5/16, 3/8 and 1/2-in. shank sizes. Made by **North American Products Co.**, 3103 W. Cherry St., Milwaukee 8, Wis.

For more details circle NED-9646 on enclosed inquiry slip

SWITCHES & RECEPTACLES
weatherproof for outdoor uses



Constructed for service in rainy or damp weather, line of weatherproof switches and receptacles can be mounted on flat surfaces or curved surfaces such as pipes, poles or trees. They consist of a cast cover and surface plate on which unit is mounted. Plate is arranged for drilling and tapping wiring outlet. Receptacles are provided for two-wire, 15-amp, 125-v and 10-amp, 250-v operation. For 15-amp, 125-v and 20-amp, 250-v use, three-wire Twistlock receptacles allow plugging in portable electric tools, vacuum cleaners, grease thawers and auto battery quick chargers. Switches can control series or individual lights on shipping platforms, factory yards and gates. Made by **Revere Electric Mfg. Co.**, 6031 Broadway, Chicago 40, Ill.

For more details circle NED-9647 on enclosed inquiry slip

VACUUM ATTACHMENT
allows floor machine to sweep, polish

Sweeping of floors during polishing, steel wooling and sanding operations can be eliminated by Dry-Vac vacuum attachment for standard Unico floor machines. No special tools are required for installation. Separate high speed ball bearing alternating-direct current motor drives attachment which has rubber skirt hugging floor for better pick-up of dirt. It is equipped with moleskin cloth bag and plugs into machine itself. Made by **United Floor Machine Co.**, 7610 S. Greenwood Ave., Chicago 19, Ill.

For more details circle NED-9648 on enclosed inquiry slip

FOR YOUR DIRECT POWER DRIVE APPLICATIONS

Whitney Roller Chain Flexible Couplings offer the equipment manufacturer and machine user a practical and efficient unit for connecting power equipment to direct drives. All steel construction . . . precision roller chain and hardened cut tooth sprockets provide positive operation . . . assure long life.

Check these Whitney Flexible Coupling features, easily installed, allows for motor end float, disconnects without removing shafts or bearings, allows for slight shaft misalignment.

You can use Whitney Flexible Couplings wherever a positive yet flexible direct drive is required. Write for information.

WHITNEY CHAIN COMPANY
203 Hamilton Street Hartford 2, Conn.

For more details circle NED-9649 on enclosed inquiry slip

FLEXLOC®
SELF-LOCKING NUTS

STAY TIGHT

AFTER 171,360,000 VIBRATIONS
AT 4000 CYCLES PER MINUTE

Plain nuts with lock washers loosened after only ONE HOUR of 4000-cycle-per-minute operation on the vibrator of a concrete block machine at the plant of the Bethayres Concrete Block Co., Bethayres, Pa.

When FLEXLOC Self-Locking Nuts were installed, they were *still tight* when the machine was torn down for rebuilding after 6 weeks operation—at 4000 C.P.M., 17 hours a day, 7 days a week!

If you have an application where nuts loosen or back off, try FLEXLOC, the one-piece, all-metal STOP-and LOCK-NUT "that won't work loose."

Send for Bulletin 619-A today.

SPS STANDARD PRESSED STEEL CO.
JENKINTOWN 24, PENNSYLVANIA

For more details circle NED-9650 on enclosed inquiry slip

Why Pay TWO OR THREE MEN TO DO A One Man's Job?

REDUCE HANDLING COST *with* SABIN BARREL TRUCKS

The trucker runs truck up to barrels or drums, hooks on at top, and an easy pull back on handle picks up load automatically.

EXCLUSIVE THIRD WHEEL FEATURE provides better balance and ensures added safety in moving loads.

WRITE FOR BULLETIN showing Sabin One Man Trucks for barrels, drums, kegs, boxes, coils, carboys, tote pans, etc.

ONE MAN HANDLES CONTAINERS UP TO 800 LBS.

Type "L-3"

The Sabin Machine Co.
6536 Carnegie Avenue
CLEVELAND 3, OHIO

For more details circle NED-9651 on enclosed inquiry slip

Your practical guide to better pipe and tube joining

BULLETIN No. 17 has all the information you need to make strong, leak-tight, low-cost pipe and tube assemblies and repairs with EASY-FLO and SIL-FOS, the modern low-temperature silver brazing alloys. It shows approved methods of cutting and fitting—cleaning—fluxing—heating and flowing the alloys.

WRITE FOR YOUR FREE COPY TODAY.

HANDY & HARMAN 82 Fulton St., New York 38, N. Y.

For more details circle NED-9652 on enclosed inquiry slip

VERSATILE—
handles dozens of finishing operations
PORTABLE—
use it where it's needed

Delta 6" Abrasive Belt FINISHING MACHINE

This husky, dependable machine is designed to handle the numerous sanding, polishing and finishing operations common to most shops. It's built to last, with a heavy trunnion carrying the tilting table—sealed, lubricated-for-life ball bearings, and many other special DELTA features.

- Operates vertically or horizontally
- Table tilts easily and quickly, 20° toward belt, 45° away from it.
- Adjustable fence for edge sanding, adjustable back for flat sanding—in horizontal position.
- Fully guarded for complete protection.

Write for Catalog

There's a Delta Power Tool for Your Job- Wood or Metal Working
53 MACHINES—246 MODELS—MORE THAN 1300 ACCESSORIES
For Delta dealers see your Classified Phone Directory under "Tools"

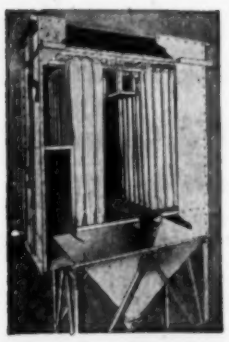
DELTA MILWAUKEE
DELTA POWER TOOL DIVISION
Rockwell MANUFACTURING COMPANY
617 N E. VIENNA AVENUE, MILWAUKEE 1, WISCONSIN

For more details circle NED-9653 on enclosed inquiry slip

GREAT PROBLEMS out of little dust clouds **GROW**

Little dust clouds create great problems, such as loss of valuable material, unpleasant working conditions, public nuisances, and costly destruction of machinery. To overcome these problems dust collecting equipment is required. However, not just ANY Collector provides high efficiency and operation. at the same time low cost The Dustube is unequalled on both scores. Results of thousands of installations prove Dustube's HIGH EFFICIENCY, which is virtually 100%! Since no Dust Collector is better than its filters, the Dustube Collector incorporates cloth-type filters. Dustubes assure LESS FILTER WEAR, because the cloth tubes are freely suspended, never in contact with abrading metal surfaces. Dustube's DUST REMOVAL is speedy and thorough. Cleaning time is shorter. ALL dust is recovered. Dustube's POWER SAVINGS guarantee a total lower operating cost. Dustubes allow EASE OF INSPECTION. Dustube's FASTER FILTER REPLACEMENT takes only seconds and requires no tools. If you have a dust problem, it will pay you to get the facts on the Dustube. Dustube engineers will survey your needs without obligation. Send for Catalog 72-A containing the basic reasons for the high efficiency of the Dustube.

COSTS



DUSTUBE ADVANTAGES

- BETTER DUST REMOVAL
- POWER SAVINGS
- HIGH EFFICIENCY
- EASE OF INSPECTION
- LESS FILTER WEAR
- FASTER FILTER REPLACEMENT

American WHEELABRATOR & EQUIPMENT CORP. 508 S. Byrkit St., Mishawaka 8, Ind.
dustube COLLECTORS

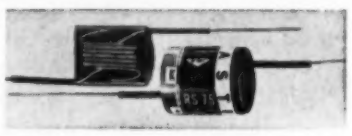
For more details circle NED-9654 on enclosed inquiry slip

LIMIT SWITCHES
latest actuators increase usage

Original type ML Micro-Limit heavy duty limit switches are now available with straight plunger and roller plunger actuators. The former, listed as 2ML1, measures 2⅛ x 6 11/32 x 2 3/16 in., while the latter listed as 5ML1 is 2⅛ x 7 5/32 x 2 3/16 in. Roller-plunger actuator is adjustable 90 degrees to place roller in line with actuating force. Switches are Underwriters' Laboratories listed for 20-amp, 110, 220 or 460-v ac operation. Pilot duty rating is 125-v ac, 6 amp normal and 60 amp inrush. Operating and release forces are 6 and 4 lb respectively. ML line meets NEMA Industrial Control Standards requirements. Made by **Minneapolis-Honeywell Regulator Co.**, Micro Switch Div., 205 S. Chicago Ave., Freeport, Ill.

For more details circle NED-9655 on enclosed inquiry slip

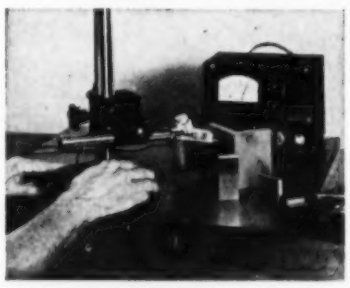
MINIATURE ELECTRONIC RECTIFIER
is sealed in protective plastic tube



Offered in ratings up to 200 ma dc output, Plastisel line of miniature selenium rectifiers feature outer case of spiral-wound phenolic tubing filled with wax which is rock-hard at 100° C. Units are available with bare or insulated tinned-copper leads. Made by **Electronic Devices Inc.**, Dept. NED, 429 Twelfth St., Brooklyn 15, N. Y.

For more details circle NED-9656 on enclosed inquiry slip

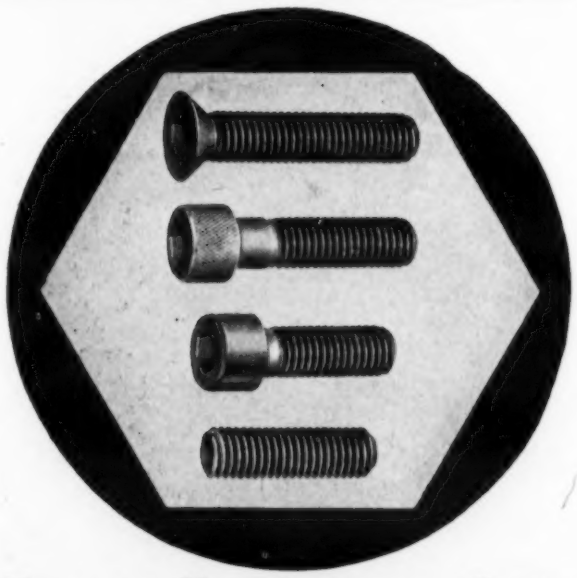
ELECTRONIC INDICATOR
portable precision instrument checks machine setups and runout



Consisting of high stability four-tube amplifier with two-scale meter and induction type gage head adjustably mounted on stand, Indi-Ac electronic indicator checks setups and runout on machine and performs surface-plate work. Gage has no mechanical amplification and amplifier is free of drift. Readings are not affected by ordinary gage head temperature changes or line voltage fluctuations, making possible repeat readings.

Meter has two continuous linear scales which read 0.0005 and 0.00005-in. or 0.0001 and 0.00001-in. per division, either side of zero. Two scales can be used interchangeably at will. Light weight instrument can be used anywhere alternating current is available for amplifier. Gage head permits access to inside diameters, narrow shoulders and remote surfaces, with amplifier located for convenient reading. Made by **Graham-Mintel Instrument Co.**, 735-A Carnegie Ave., Cleveland 15, O.

For more details circle NED-9657 on enclosed inquiry slip



Unusually clean sockets
in double-extrusion-produced
Cleveland Socket Screws
Write for samples and prices

CLEVELAND Top Quality FASTENERS
THE CLEVELAND CAP SCREW COMPANY
2917 EAST 79TH STREET • CLEVELAND 4, OHIO
Warehouses: Chicago, Philadelphia, New York, Providence
Ask your Jobber for Cleveland Fasteners

For more details circle NED-9658 on enclosed inquiry slip

NEW LABELING TAPE — write on it — won't smudge — stays clean, resists oil, acids—pressure sensitive

Every industry will find Labelon Tape a time and money saver. Sticks firmly, without moistening, to any smooth, clean surface, yet can be instantly removed . . . won't curl or discolor with age or variations in temperature or humidity.

Write on it with pencil, stylus or typewriter. Message won't smudge or smear—resists dirt, acid, water, oil and heat up to 150° F. That's because Labelon is the only labeling tape with a special writing surface sandwiched between two layers of acetate. Available in different widths and colors, with or without self dispenser.

Labelon Tape is perfect for labeling stock room bins, shelves, and hard-to-mark parts; for tool tagging and special equipment identification; for marking service department repairs; for indicating rejected parts; for labeling laboratory equipment, supplies, experiments; for panelboard or electrical wiring; for identifying files, storage boxes and general office equipment. Samples and catalog on request. Made by **Labelon Tape Co., Inc.**, Dept. NED, 450 Atlantic Ave., Rochester 9, N. Y. Advt.

For more details circle NED-9659 on enclosed inquiry slip

New Safety! New Efficiency!
for ANY PULLING . . . PUSHING . . . LIFTING JOB
with the right SIMPLEX HYDRAULIC EQUIPMENT

Re-Mo-Trol PULLERS
Hydraulic Pumps and remote-controlled Rams for pulling wheels, gears, shafts, etc.; also pushing and lifting in any direction *from a distance*. Safe, smooth, powerful. 10 to 100 ton capacity units. Unique Center-Hole simplifies rigging.

SIMPLEX JENNY
Self-contained Hydraulic Pullers with famous Center-Hole for easy pulling, pushing, lifting. Rugged, versatile; 6 models, 30 to 100 ton capacities.

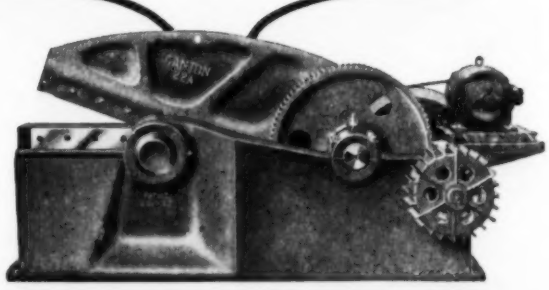
SIMPLEX HYDRAULIC JACKS
Sturdy, safe, efficient units to do any lifting job easy and fast. 8 models; 3 to 100 ton capacities. Also 10 and 25 ton models with toe lifts.

Get full information on the most complete industrial line of Hydraulic Jacking equipment; write for Bulletin: Hydraulic 51R.

Simplex LEVER • SCREW • HYDRAULIC Jacks
TEMPLETON, KENLY & CO.
1010 South Central Ave., Chicago 44, Ill.

For more details circle NED-9660 on enclosed inquiry slip

"CANTON" ALLIGATOR SHEARS
for industrial shearing as well as scrap preparation.



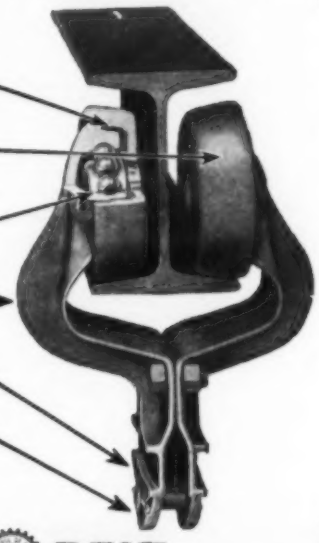
for production cutting . . .
CANTON Alligator Shears are manufactured in a wide range of sizes for commercial production shearing of bars, flats, rounds, angles, etc. Machines are available with or without stop motion clutch.

for scrap shearing . . .
CANTON Alligator Shears have the advantages of a self contained unit—No Foundation Required—Adjustable knife seat eliminates shimming of blades. Made in a complete range of sizes and models for every shearing need.

The HILL ACME Company "CANTON" DIVISION 1201 West 65th St CLEVELAND 2, OHIO
Bulletin N-51 Gives Complete Details.

For more details circle NED-9661 on enclosed inquiry slip

Important points to look for when you buy trolleys You get them all when you buy Link-Belt



Effective sealing of wheel and bracket keeps out dust and dirt.

Wheels are drop-forged, internally machined to extremely close tolerances.

Raceways are induction hardened. High load capacity is based on entire assembly — not just on bearing.

Rugged, one-piece bracket and clevis are drop-forged and heat-treated—fewer parts to maintain.

Trolley can replace other makes without disturbing chain's operating position.

Clevis pins are locked in bracket, cannot rotate. Bracket wear is minimized.

Write for Folder 2241-B.

LINK-BELT

LINK-BELT COMPANY: Chicago 8, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8. 12,304

For more details circle NED-9662 on enclosed inquiry slip

How a Pittsburgh Brush Solved an Oil Pressure Problem*

*** An actual case history from the Allis-Chalmers Pittsburgh Works, manufacturers of transformers.**

At Allis-Chalmers, well-known manufacturer of industrial equipment, the problem was to secure a satisfactory oil pressure test on transformer radiators. The key to the problem was to find a brush narrow enough to clean between cooling fins and strong enough to remove slag and spall on welds which could conceal pinholes. Pittsburgh engineers recommended an 8" rotary wire brush. The brush proved more than satisfactory and the problem was solved!

Let Pittsburgh Engineers Solve Your Brush Problems.

Pittsburgh's complete line of brushes of every type, for every purpose, will provide a practical and economical solution of any brush problem you might have. Drop us a line on your company letterhead for a copy of our new booklet that shows, through actual case histories, how Pittsburgh can help cut your brushing operation costs. Address: PITTSBURGH PLATE GLASS COMPANY, *Brush Div.*, Dept. M4, 3221 Frederick Ave., Baltimore 29, Md.

PITTSBURGH Power Driven BRUSHES

BRUSHES • PAINT • GLASS • CHEMICALS • PLASTICS

PITTSBURGH PLATE GLASS COMPANY

For more details circle NED-9663 on enclosed inquiry slip

COIL STOCK CRADLES handle 15-in. maximum width

Accommodating coiled stock with 48-in. OD and 15-in. width maximums as standard, series 3000 Easy Load coil stock cradles are motor driven and automatic in operation. Additional widths are available within 3000-lb capacity of cradle. Actuating arm operates on inside or outside of slack loop. Hardened and ground rolls are mounted in each of two individually controlled guide plates. Reversing switch is standard equipment, and variable pitch sheave is available at extra cost. Made by **Rowe Machinery & Mfg. Co.**, 1508 N. Industrial Blvd., Dallas, Tex.

For more details circle NED-9664 on enclosed inquiry slip

IMMERSION HEATERS vapor-tight models for plating baths

Improvements incorporated in two Calrod immersion heaters include vapor-tight terminal housing junction box which is easy to repair in field and which has readily accessible terminals. Design also facilitates relocation of heater. Either flexible leads or rigid conduit can be used on unit, applicable for nickel and copper plating baths and for mild sulphuric acid and chrome plating baths. Made by **General Electric Co.**, Industrial Heating Dept., Schenectady 5, N. Y.

For more details circle NED-9665 on enclosed inquiry slip

DUAL THREAD COMPARATOR for externally threaded parts

Visual inspection of up to 1½-in. diameter externally threaded parts can be effected by dual thread comparator on which first jaw gives one composite reading of pitch diameter, lead and angle. Second jaw with two-thread engagement provides specific check of pitch diameter as well as check of back taper on very short threads when length does not exceed major diameter of thread. This second check also indicates presence of lead or angle errors. Both readings are indicated visually on single dial. Comparator can be used for final acceptance gaging or for production checking parts at machine. Made by **Hanson-Whitney Co.**, 170 Bartholomew Ave., Hartford 2, Conn.

For more details circle NED-9666 on enclosed inquiry slip

ARMSTRONG BROS. Better PIPE TOOLS

An easier, faster, better way to thread 1" to 2" pipe . . . WITH POWER!

This light (26 lb.) compact Portable Power Pipe Threader, goes to the job—is *operated with a ½" portable electric drill.* 1 set of High Speed Steel Chasers do all sizes—just move indicator to 1", 1¼", 1½" or 2" marking. Clamp on pipe and apply drill to drive square. The rest is automatic. Operating on anti-friction bearings with automatic lead, it's a *fast*, easy way to get smooth, accurate threads.

Write for Catalog

ARMSTRONG BROS. TOOL CO.
"The Tool Holder People"
5245 W. ARMSTRONG AVENUE • CHICAGO 30, ILL.

For more details circle NED-9667 on enclosed inquiry slip

Commemorating our 60th Anniversary
THE POWERS REGULATOR COMPANY

New Factory and General Office Building: 3400 Oakton Street, Skokie, Ill.

World's Most Modern Factory Producing Automatic Temperature and Humidity Control

. . . to meet the greatly increased demand for Powers products and to give you better controls, better deliveries and better values . . . these advantages are possible with our large new plant and modern production facilities. With an enlarged engineering and production staff, plus 60 years experience in heating, ventilating, air conditioning and process control, we believe we can be of greater service than ever before to our many friends who have contributed to our success

WILLIAM PENN POWERS

. . with his invention of the first all pneumatic system of temperature control and gradual acting vapor disc thermostat made an invaluable contribution to the modern science of heating, air conditioning and industrial process control.

Offices in Over 50 Cities. See Your Phone Book.

For more details circle NED-9668 on enclosed inquiry slip

Engrave . . . PANELS UP TO 25" WIDE IN YOUR OWN SHOP WITH THE NEW ENGRAVOGRAPH

Portable Model 1-S

TRACER GUIDED FOR UNSKILLED LABOR

The *only* portable machine which reproduces 15 sizes from one master alphabet.

The *only* one with *adjustable* copy holding slides for multiline engraving in one set-up.

Self-centering holding vise for nameplates.

Send for Booklets
I-526—portable model
H-26—heavy duty model

NEW HERMES, Inc. new hermes Engravograph
13-19 University Pl, N. Y. 3, N. Y.
CANADA: 359 St. James St., Montreal
World's Largest Manufacturer of Portable Engraving Machines

For more details circle NED-9669 on enclosed inquiry slip

A 6000-LB. LIFT! at a touch of Suzy's featherlight fingertips!

Yes, *Fingertip Control* on the new Revolvator Go-Getter enables anyone to pick up a wacking big lift-and-carry load. *Anyone!*

Think what this means in the face of rapidly increasing work-costs; in terms of reducing occupational-accident hazards. You don't need skilled labor — husky muscle-men—to operate Fingertip Control Revolvators.

This control feature and many more are *exclusive* with the Revolvator Go-Getter electrically-operated pallet-type truck, which hydraulically lifts a full four inches in four seconds. It lowers loads just as gently . . . smoothly . . . quietly as it lifts. Positively braked with deadman safety control. Comparable, practically, to the way little Suzy handles her doll carriage, but a whole lot surer and faster.

REVOLVATOR GO-GETTER

Smoothly turns with no steering push-and-pull, up to a full 200° arc, within its own length. 2 and 3-ton models.

REVOLVATOR CO.
Designers and Manufacturers of Materials Handling Equipment Since 1904

Revolvator Co.
8732 Tonnelle Ave., North Bergen, N.J.
Gentlemen:
We want to know, without obligation, all about Revolvator Go-Getter *Fingertip* Control Lift Trucks
Name
Position
Company
Address

For more details circle NED-9670 on enclosed inquiry slip

It says "STOP" to Solids— "GO" to Fluids

Here is a BETTER Strainer to "police your pipelines"

• FIRST—*The Screen*, a high-grade, woven Monel wire basket that catches solids—lets condensate, oil or other fluids flow freely.

• SECOND—*Finish*. Cadmium plated for protection against corrosion and for better appearance.

• THIRD—*Easily Cleaned*. Blow-off bushing made for easy removal. Bushing and Screen come out together. Screen automatically aligns on reassembly.

• THOUSANDS IN SERVICE—Sold by over 150 Mill Supply Houses. 6 sizes from ½" to 2" for pressures up to 600 lb. Reasonably priced.

See your supply house or write for Bulletin S-201.

YARNALL-WARING COMPANY
131 Mermaid Ave., PHILADELPHIA 18, PA.

YARWAY STRAINERS

For more details circle NED-9671 on enclosed inquiry slip

"The cost of changing to FUSETRON dual-element FUSES has been paid for more than ten times over in sustained production time"

. . . says Mr. John H. Van Houten, Superintendent, Paul Lime Plant, Paul Spur, Arizona

HERE'S HOW

"Prior to February, 1948 we used ordinary renewable fuses throughout our plant. They gave us short-circuit protection but we lost a great many motors due to single phasing, excessive heating and climatic conditions.

"When a motor goes out in a plant like ours, it costs us a loss in production that is difficult to make up.

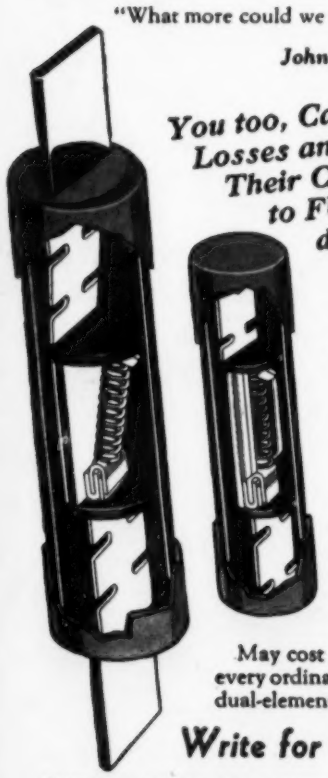
"In February, 1948 we changed the whole plant over to FUSETRON fuses. On the motors we installed a size to give motor running protection.

"We have completely eliminated motor losses due to single phasing and believe we have better all-around protection than before.

"Our records show that the cost of changing to FUSETRON fuses has been paid for more than ten times over in sustained production time.

"What more could we ask?"

John H. Van Houton



You too, Can Cut Production Losses and Save Many Times Their Cost by Changing to FUSETRON dual-element FUSES

FUSETRON
TRUSTWORTHY NAMES IN ELECTRICAL PROTECTION
BUSS

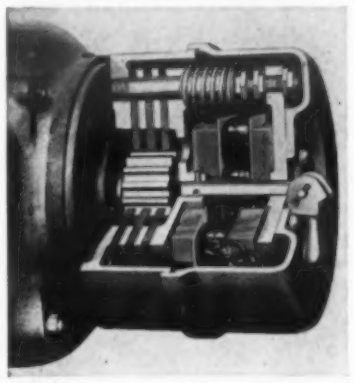
DON'T RISK LOSSES!
One lost motor . . .
One needless shut down . . .
One destroyed switch or panel
One burned out solenoid . . .
May cost you far more than replacing every ordinary fuse with a FUSETRON dual-element fuse.

Write for complete facts.

BUSSMANN MFG. CO., University at Jefferson, St. Louis 7, Mo.
(Division of McGraw Electric Co.)

For more details circle NED-9672 on enclosed inquiry slip

DISK-TYPE MAGNETIC BRAKE fully enclosed weatherproof units mount on NEMA type C motor flanges



Line of alternating or direct current direct-acting disk-type magnetic brakes is designed to stop any motor instantly, to hold load and to release with no drag. Brake is spring engaged and magnetically released, and mounts on NEMA type C motor flanges.

Friction disks, springs and magnet constitute heart of unit which has high thermal rating. Brake need not be dismantled, nor torque setting disturbed in order to mount it on motor. Manual release lever outside of housing disengages brake and also indicates visually when torque and wear adjustment is necessary. Torque cannot be increased beyond ability of magnet to release. Units are fully enclosed, drip-proof and weatherproof, and can be adapted for vertical mounting if so ordered. Brake leads connect to leads of either 220 or 440-v motors. Made by **Dings Magnetic Separator Co.**, 4758 W. Electric Ave., Milwaukee 46, Wis.

For more details circle NED-9673 on enclosed inquiry slip

TENSILE TESTER ACCESSORIES give instrument more versatility by permitting compression tests

Designed to increase applications of Instron tensile tester are compressional accessories, crosshead of which is easily removable and is attached to frame below moving crosshead, as shown in photograph. Compression type load cells have rigidly attached load sensitive table and sample is compressed between this table and moving crosshead. Load deformation, cyclic and relaxation data can be obtained with same accuracy and high speed response as is obtained in tensile measurements.

By use of simple jigs and fixtures, torsion and flexural measurements can be carried out. Scale range of compression tests available extends from 20 grams to 5000 lb. An integrator has been developed for tester which determines from counter readings area under load deformation curve equivalent to energy either absorbed or returned by test sample. Tensile tester has jaw speeds ranging from 0.02 to 20 ipm and electronic load weighing system based on electric strain gage principle. Made by **Instron Engineering Corp.**, 3A Hancock St., Quincy 71, Mass.

For more details circle NED-9674 on enclosed inquiry slip

SAFETY EQUIPMENT FOR ALL INDUSTRIES

IPCO UTILITY RAIN SUIT

Offers finest all-weather protection.

Absolutely waterproof and windproof . . . Patterned roomy to be worn over regular clothing.

IPCO

The IPCO Utility Rain Suit consists of coat, pants and detachable hood. Double texture fabric with a sheet of solid rubber vulcanized in between assures waterproof qualities. Olive drab color.

Write for Bulletin LA-121

IPCO *Safety Equipment for all Industries*
INDUSTRIAL PRODUCTS COMPANY
2807 N. FOURTH STREET • PHILADELPHIA 33, PA.

For more details circle NED-9675 on enclosed inquiry slip

Ask Sta-Warm to tailor compound melting equipment to your requirements

YOU'LL then get the right amount of melted compound in the right place at the right time . . . and at lowest over-all long-time cost.

The Sta-Warm Method helps you keep costs down and production up to schedule. There's no obligation on your part if you want to open with a barrage of pointed questions about your own compound melting problem. *Ask Sta-Warm today for recommendations.*

50 gal. compound melter with motor driven agitator and molasses gate valve. Standard Sta-Warm compound melters range from tiny hand held wax melters to 1,000 gal. mother tanks. Accessories and fittings to suit.

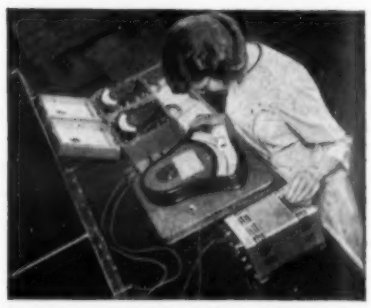
Sta-Warm ELECTRIC CO.
130 N. CHESTNUT ST., RAVENNA, OHIO

For more details circle NED-9676 on enclosed inquiry slip

wherever you need to vary the voltage . . .

Inductrols
(DRY-TYPE INDUCTION VOLTAGE REGULATORS)

Typical Uses:
- Motor speed control
- Rectifier control
- Heat control
- Dielectric testing
- Instrument calibration



Hand-operated, G-E Inductrol being used in the calibration of a-c voltmeters against standard instrument. Just one of the many ways it helps increase efficiency and speed production.

G-E Inductrols are small, dry-type induction voltage regulators, suitable for many applications.

Unit shown above operates from either 120 or 240 volt a-c circuits, with output variable—steplessly, with micrometer-fine precision, from 0 to 240 and 0 to 480 volts respectively. It will handle 5 or 10 amperes. Absence of brushes, contacts and commutator reduces maintenance. Unit has autotransformer efficiency.

You can get G-E Inductrols in hand-operated or in manually-controlled, motor-operated designs for circuits 600 volts and below. For complete information, see your nearest G-E sales representative, or write for Bulletin GEC-795, *General Electric Company, Schenectady 5, N. Y.*

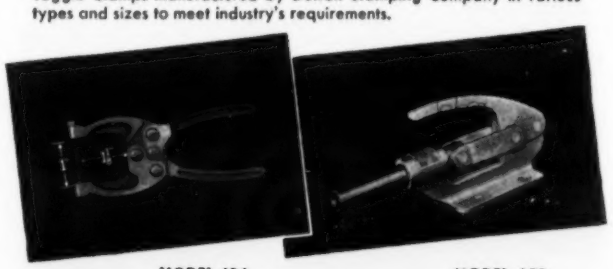
GENERAL ELECTRIC
404-85

For more details circle NED-9677 on enclosed inquiry slip

If you have to HOLD

ANYTHING in your production operations

Hold EVERYTHING with "DE-STA-CO" Toggle Clamps in welding, riveting, bonding, machining and assembly. • Fast clamping, positive holding pressures, instantaneous release—Toggle Clamps speed up your operations and cut your costs. • There are more than 40 different Toggle Clamps manufactured by Detroit Stamping Company in various types and sizes to meet industry's requirements.



MODEL 424
PORTABLE PLIER CLAMP
For one-hand use in cramped work areas and small space. Deep jaw capacity but only 4½" in length.

MODEL 650
HEAVY DUTY PLUNGER CLAMP
For "push-pull" work-holding jobs where considerable pressure is needed. Compact; up to 4000 lbs. capacity.

MODEL 235-U RETRACTABLE CLAMP (Not illustrated)
Quick, unimpeded loading and unloading of fixtures easily possible with this one. Up to 750 lbs. pressure.

Ask for "DE-STA-CO" Toggle Clamp Catalog and name of representative nearest you who is stocking our entire line of Toggle Clamps.

DESTACO DETROIT STAMPING COMPANY
360 MIDLAND AVE. • DETROIT 3, MICH.

For more details circle NED-9678 on enclosed inquiry slip

SAVE UP TO 85% ON TOOLS-MACHINERY AND PARTS!!

NEW! 200 PAGE CATALOG

WAR SURPLUS SAVINGS

STATIONARY or PORTABLE D.C. ARC WELDER

For light or heavy industrial work. Delivers 300 Amps., continuous — or 350 to 400 Amps., intermittent. Designed to weld continuously for hours... This unit is built around a rugged, heavy duty, aircraft type generator and comes complete with Pulley reactor, output controls, Hi-Lo switches & rheostat mounted on sturdy steel frame. Operates on 15 H.P. for maximum output. Gas or electric motor. 97.50

JUST OFF THE PRESSES! IMMEDIATE DELIVERY! ORDER NOW!!

Our latest and biggest CATALOG of NEW and SURPLUS BARGAINS. Thousands of items at UNHEARD OF LOW PRICES! SAVINGS UP TO 85% in Hand & Power Tools, Electrical Supplies, Industrial Machinery, Gas and Electric Motors, Winches, Hoists, Machine Tools, Gauges, Welding Equipment, Pneumatic & Air Tools, Raw Stocks, Aluminum, Brass, Copper, & Steel in Sheets, Bar, Rods, Tube & Extrusions. Nuts, Bolts, Rivets, Screws, Wire, Cable and a Huge Stock of HYDRAULIC SUPPLIES including Cylinders, Valves, Pumps, Motors, Fittings, Tubing, etc. While these items last we will continue to sell them at typical low Pulley Prices. Write for your copy of this Bargain Packed Catalog TODAY!

PULLEY SPECIALS on HYDRAULIC PUMPS & CYLINDERS

HYDRAULIC PUMP or MOTOR GEROTER TYPE

Logan Gerotor type. For operating hydraulic systems on trucks, tractors, etc. Delivers 8 GPM at 1200 RPM at 1000 PSI with 5 HP. Can also be used as Hydraulic fluid motor. 3/8" stand pipe ports. ½" splined shaft for pulley or direct attachment. 5½" dia., 7" long. Used but condition guaranteed. 19.50

Special! HYDRAULIC CYLINDER

Gives 20,000 lb. thrust (push or pull) using 1500 PSI line pressure as obtained from our hydraulic pumps. Will produce up to 40,000 lb. thrust with 3000 PSI. Can also be used on low pressure air systems. 4" bore; 18" stroke; 30½" length. Ideal for road-farm — shop machinery. 29.95

P-3 STRATO POWER PUMP

With built-in variable flow control valve in head. Positive displacement piston type. Displacement capacity: 2 gal. per min. at 1500 RPM at 1250 PSI. Pressure limit 1250 PSI continuous. 1400 PSI for 15 sec. Operates at 3750 RPM, intermittent max. 4500 RPM. Rotates either direction without adjustment .. 19.50

No. 3 HYDRAULIC CYLINDER

Double action. Bore is 1" — Shaft ½". Has stroke of 2½" to 4". Stroke can be adjusted with internal sleeve stops. Overall length is 8½". Will take 1500 lbs. continuous duty. 3000 lbs. intermit. Will lift or push up to 1100 lbs. 5.75

P-4 VICKERS ANGLE PUMP

Positive displacement type, angle piston. Displaces .507 cu. in. per revolution. Has capacity of 6 gal. per min. at 3000 RPM at 1500 PSI., continuous, 1875 for 15 sec. Operating speed of 3750 RPM, intermittent maximum, 4500 RPM. Rotates to the right only 19.49

4 WAY VALVE

Poppet type. Pressure balanced. Off at neutral position. Piston type with built-in relief valves for limit of cylinder strokes. 5/8" AN tube size (7/8"-14 thread) inlet & outlet. Parts to cylinder are 1/2" AN tube size (3/4"-16 thread) 9.75

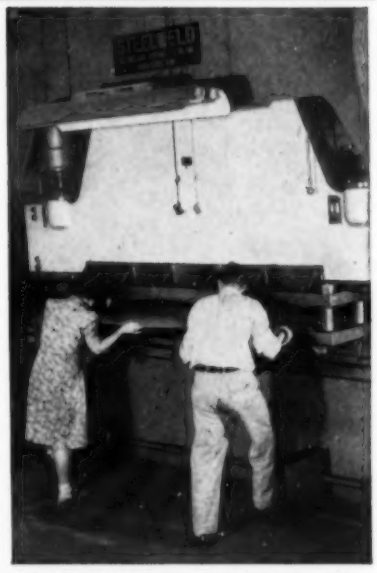
PULLEY SUPPLY CO. Dept. NED-12 6321 SAN FERNANDO RD. GLENDALE 1, CALIF.

Order from this ad. All sales final. All prices F.O.B., Glendale. Pay by M.O. or check. P.O.'s accepted from D.&B. firms. ½ deposit with C.O.D.'s.

For more details circle NED-9679 on enclosed inquiry slip

BLANK AND EMBOSS WITH A VERSATILE STEELWELD PRESS

4800 panels of 26 ga. metal for 12" x 24" sound-deadening cells are blanked out and embossed per 8-hour day with this Steelweld Press. This versatile machine also does bending, punching, flanging, etc. in various thickness metals to one inch quickly and efficiently.



It is easy to change dies from one job to another or repeat runs of work to close tolerances.

STEELWELD BENDING PRESSES CATALOG No. 2010

Send for free copy of catalog No. 2010.

THE CLEVELAND CRANE & ENGINEERING CO.
6639 East 281st St. Wickliffe, Ohio

STEELWELD PRESSES

For more details circle NED-9680 on enclosed inquiry slip

Speed pipe joining with this

FLEXIBLE-TIGHT FITTING

ONE... Stab pipe ends into factory assembled Dresser Fitting

TWO... Tighten end nuts—takes only a few seconds

THREE... A permanently tight, flexible joint

There's no easier way to join pipe than with Dresser Style 65 Fittings. And they stay tight despite vibration and deflection. No threading to weaken pipe wall. Sizes 3/8" to 2" pipe diameter. Write for STYLE 65 CATALOG.

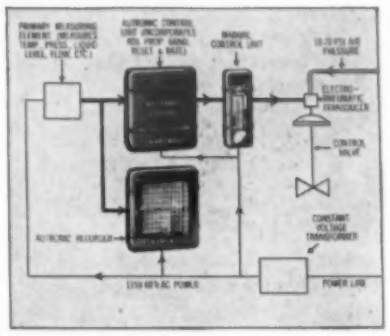
Complete line of tees, elbows, adaptors, branch tees, etc.

DRESSER "NO-THREAD" FITTINGS

Dresser Manufacturing Division, 59 Fisher Ave., Bradford, Pa. (One of the Dresser Industries). Sales Offices: New York, Philadelphia, Chicago, Houston, South San Francisco.

For more details circle NED-9681 on enclosed inquiry slip

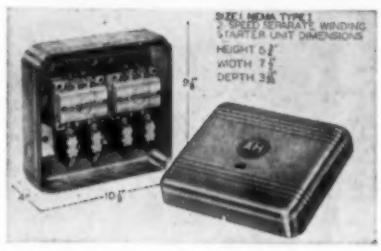
PROCESS CONTROL SYSTEM is centralized and all electronic



Measuring and controlling such process variables as temperature, pressure, level and flow can be carried out by Autronic miniature all-electronic centralized control system. Equipment consists of primary sensing element, Autronic control unit and final control element. It is powered by 115-v 60-cycle alternating current. Control unit can be mounted in any location. If graphic presentation is required, recorder can be plugged into circuit. Auxiliary manual control permits switching from automatic to manual control or vice versa. Made by **Swartwout Co.**, 18519 Euclid Ave., Cleveland 12, O.

For more details circle **NED-9682** on enclosed inquiry slip

MOTOR STARTERS for reversing and multispeed motors



Featuring right angle operating mechanism, type RAR and RAS magnetic motor starters for reversing and multispeed motors, respectively, are supplied with straight-through front wiring. Starters are made in sizes 0, 1, 2, 3 and 4. NEMA type I steel housings are for various indoor uses, while housing types IV, VII and IX adapt starters to most exposed and hazardous locations. Made by **Arrow-Hart & Hegeman Electric Co.**, 101 Hawthorn St., Hartford 6, Conn.

For more details circle **NED-9683** on enclosed inquiry slip

PORTABLE DRILL ¼-in. electric tool weighs 3¼ lb

With handle shaped for ample finger room, ¼-in. Holgun portable drill features full-size ball bearings, heat treated gears, splined gear shafts and smooth contour aluminum housing. Heavy duty drill is available for standard or low speed. Standard speed model has no-load speed of 1700 rpm, with 2500, 3500 or 5000 rpm optional, while low speed model has no-load rating of 600 rpm, with 1000 rpm optional. Weighing 3¼ lb, drill can be used in close corner drilling operations. It is available for operation on 115 or 230 v. Made by **Black & Decker Mfg. Co.**, 762 E. Pennsylvania Ave., Towson 4, Md.

For more details circle **NED-9684** on enclosed inquiry slip

BASA HAMMERS • FAVORITE WRENCHES • EMPIRE MALLETS

PALMETTO Packings

MORAN'S COUPLINGS • "TUSKO" WALRUS POLISHING LEATHER

PALMETTO PELRO® STOPS THE SOLVENTS ...but good!

No "weak sister" here, when the menace is thin solvents. Bring on gasoline or other petroleum distillates—Palmetto *self-lubricating* Pelro packs the punch of a typically unique Palmetto lubricant compound which "sizes the packing" . . . which is neither soluble nor miscible in chlorinated hydrocarbons, petroleum solvents or coal tar derivatives. Impregnation of every strand absolutely ensures an end to all capillary seepage!

Count on Palmetto Pelro for its economical performance too! Finest structure of finest materials cuts the extravagant man-hour loss in frequent repacking — and equipment failure — due to faulty makeshift packing.

Write for new Bulletin LP-10

GREENE, TWEED & CO.
NORTH WALES, PENNSYLVANIA

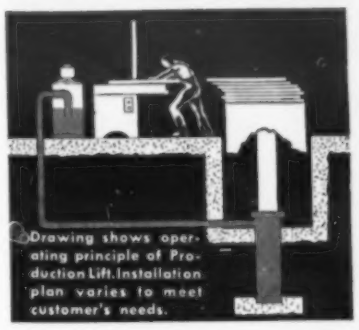
Contact your fully-stocked Palmetto distributor on all packing problems . . . ask him about our special tools.

For more details circle **NED-9685** on enclosed inquiry slip

Globe Production Lifts

Speed machine-feeding jobs; reduce waste-motion, lessen fatigue

There is a Globe Production Lift for almost any job from raising paper stock to a cutter to feeding sheet steel into a brake or shears... from feeding tumbling barrels to positioning men and equipment for welding operations.



Drawing shows operating principle of Production Lift. Installation plan varies to meet customer's needs.

Globe Production Lifts save time, waste-motion, and strain—the OiLIFT powered platform "inches" upward so that material is always on the right level for easiest and fastest handling. This all adds up to substantial savings in production costs.

Got a Lifting Problem?

GLOBE *has the answer*

Muscle is the world's most wasteful lifting power. A Globe OiLIFT will do it cheaper and better.

For helpful information on Self-Leveling Ramps, Machine Loading Lifts, Industrial Truck Service Lifts, Production Lifts, etc., write for bulletin NE-314.

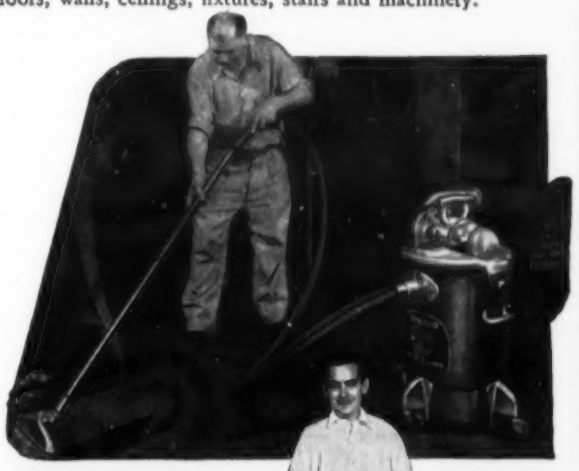
GLOBE HOIST COMPANY • 1000 E. Mermaid Lane, Philadelphia 18, Pa.
(Factories at Des Moines, Iowa & Philadelphia, Pa.)

For more details circle **NED-9686** on enclosed inquiry slip

TORNADO® CLEANING

Saves YOU Time, Labor, Money

Modern plant maintenance demands modern equipment. Let Tornado speed up your cleaning time, reduce man hours and lower operator fatigue. The Breuer representative can quickly show you many improved methods for cleaning floors, walls, ceilings, fixtures, stairs and machinery.



TORNADO INDUSTRIAL VACUUM CLEANERS

Versatile and powerful machines for one stroke wet or dry positive pickup. Plenty of capacity for fewer emptying operations and attachments for every job. Bulletin 600.

For cleaning: Floors, walls, ceilings, fixtures, stairs, machinery. Picks up dirt, dust, wood or metal chips, liquids or any combination.

TORNADO FLOOR MACHINES

A rugged and powerful machine that operates smoothly reducing operator fatigue. Self-retracting wheels and automatic brush coupler speed up operational time. Machines will scrub, polish, pumice, buff, wax, shampoo, steel wool and sand. Bulletin 583. For: Wooden and concrete floors, linoleum, asphalt or composition tile, carpets, and marble.

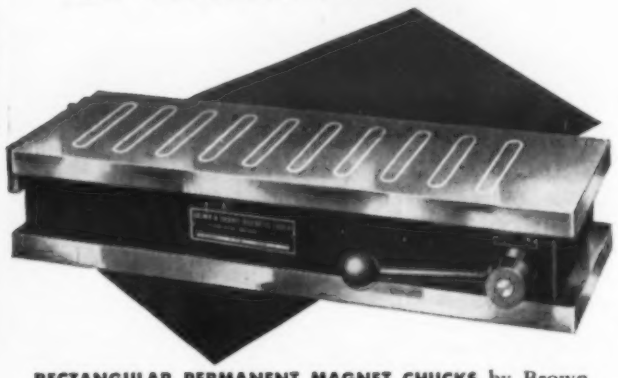
TORNADO PORTABLE BLOWER

A dependable blast of clean dry air that blows dirt, metal chips and oily fuzz out of electrical motors, machinery and other hard-to-get-at places. Attach a bag and hose and use it for a portable vacuum cleaner. Bulletin 579.

BREUER ELECTRIC MFG. CO.
5116 N. Ravenswood Avenue • Chicago 40, Illinois

For more details circle **NED-9687** on enclosed inquiry slip

Save waste motion of machinists



RECTANGULAR PERMANENT MAGNET CHUCKS by Brown & Sharpe save machinists' time whenever they're used. A quick shift of a lever engages or disengages powerful magnetic holding power. On many jobs you can eliminate jigs or fixtures.

Permanent Magnet Chucks cost nothing to operate, hold as long as desired, have no wires to connect. Available in 8 sizes from 2-7/16" x 5¼" to 12⅛" x 36". Rotary models also available. For sale only in the United States and its territories. Write for catalog. Brown & Sharpe Mfg. Co., Providence 1, R. I., U.S.A.

We urge buying through the Distributor

BROWN & SHARPE BS

For more details circle **NED-9688** on enclosed inquiry slip

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WHAT'S IN THIS PIPE?

YOU KNOW WHAT'S IN THIS ONE

CITY GAS

YOU CAN TELL AT A GLANCE WITH

QUIK-LABEL PIPE MARKERS

Identify every pipe in your plant quickly and inexpensively with Brady Pipe Markers. They give you a uniform system of identification based on ASA Standard A13. Anyone can apply and everyone can identify the pipe contents and direction of flow. Cut maintenance time. Make your plant a safer place to work. Over 235 different markers in stock. Specials made to order.

QUIK-LABELS come on handy dispenser cards. They are printed in large black letters on approved ASA background colors. Applied in a jiffy—they stick without moistening. Use indoors or outdoors. Cost only a few cents per marker.

WRITE FOR Free SAMPLES AND USEFUL CATALOG.

DISTRIBUTORS IN OVER 125 PRINCIPAL CITIES

WIRE MARKERS · PIPE MARKERS · SAFETY SIGNS · PRINTED "SCOTCH" TAPE · MASKS & STENCILS

MANUFACTURERS OF SELF-STICKING PRODUCTS

W.H. BRADY COMPANY EST. 1914

1623 E. SPRING STREET • CHIPPEWA FALLS, WIS.

For more details circle **NED-9689** on enclosed inquiry slip

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CATALOG TODAY!

60 pages of valuable information describing the line of Honeywell Automatic Controls

THE KIND of information you want, right at your finger tips . . . on pneumatic, electric and electronic non-indicating controls for temperature, pressure and humidity.

Catalog No. 8304 is complete and factual . . . send for your copy today.

Also ask to be put on the mailing list for *Industrial Control News*—a periodical publication devoted to new and unusual applications of automatic controls throughout industry. It is written by and for production and maintenance men.

MINNEAPOLIS-HONEYWELL REGULATOR CO., *Industrial Division*, 4529 Wayne Ave., Philadelphia 44, Pa.

Minneapolis Honeywell
Brown Instruments

For more details circle **NED-9690** on enclosed inquiry slip

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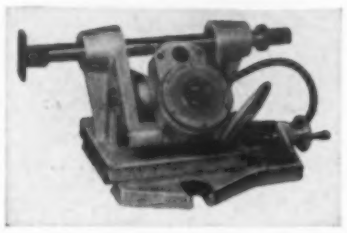
CAM RISE GAGE
speeds measurements optically



Deviation in cam surface at any angle of arc from minimum to maximum radii can be measured in ten-thousandths by this cam rise gaging device which measures both angle and amount of eccentricity by optical means. Reading is direct at normal distance, with no focusing necessary. Gage is used with dividing head and tail stock to position cam for angular measurements. Linear scale is graduated in 0.05-in. increments from 0 to 3 in. Microscope enlarges these divisions so that each can be divided for direct reading to 0.0005-in. Movements as small as 0.00025-in. can be accurately estimated. Made by **F. T. Griswold Mfg. Co.**, 0305 W. Lancaster Ave., Wayne, Pa.

For more details circle **NED-9691** on enclosed inquiry slip

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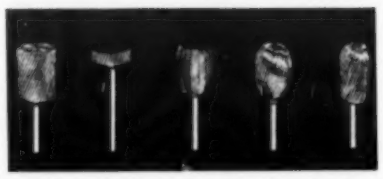
ROTARY FILES
ground from solid high speed steel



Operating efficiently on hard or soft metals, this line of rotary files comprises wide variety of sizes and shapes for many applications. Files are made from high speed steel and ground after hardening. Manufacturer offers resharpening service which restores cutting efficiency when tool becomes dull. Following shapes are made: cylindrical, cylindrical radial end, radial tree, pointed tree, olive, ball, inverted cone, 60 and 90-degree cones and other special shapes. Made by **Pulaski Metal Products Co.**, Dept. RF, 44 Salina St., Pulaski, N. Y.

For more details circle **NED-9692** on enclosed inquiry slip

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QUENCHING TANK
maintains constant liquid level

Quenching liquids are cooled as they are circulated in Contro-Therm quench tank designed to receive work from mechanical loader which removes entire load from furnace and quenches it in one operation. Unit consists of main tank, reserve and cooling tank, pump and motor. A constant liquid level is maintained regardless of displacement caused by treated work. Overflowing liquids run over dividing wall into reserve tank where ¼-hp, 110-v, single phase motor pump recirculates it back into main quench tank. Directional flow is changed at will. Overall dimensions are 30 x 42 x 30 in. Made by **A. D. Alpine, Inc.**, Dept. 250, 11837 Teale St., Culver City, Calif.

For more details circle **NED-9693** on enclosed inquiry slip

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The Famous Sutton MOTOR DRIVEN PRESSURE BLOWER

ORDERED BY EVERY BIG NAME IN THE COUNTRY!

THREE SIZES ¼, ½, 1 H.P.

USED FOR EXHAUSTING DUST, SMOKE, FUMES, VAPOR . . COOLING AND DRYING . . CONVEYING COTTON, WOOL, SHAVINGS . . FORGE BLASTING

MADE OF LIGHTWEIGHT CAST ALUMINUM ALLOY to reduce weight and increase strength. CENTRIFUGAL TYPE. Delivers even, nonpulsating flow of air. Universal as to rotation and discharge. Direction of discharge may be changed to any of eight 45 degree positions. Straight wall construction reduces windage and increases efficiency. Standard 3450 r.p.m. direct-connected 60-cycle ball bearing motor, open or totally enclosed types. Capacities, 100 to 800 cu. ft. per min. at static pressures from ½" to 6".

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Sutton *Manufacturing Corp.*

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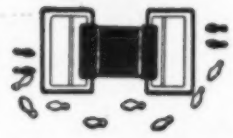
TWIN WHEEL 10" to 14" WET OR DRY TOOL GRINDER

FOR CARBIDE STELLITE AND HIGH SPEED STEEL TOOLS!

OLD WAY



Lost time between rough and finish grind.

Floor space wasted — Grinder must be away from wall.

TYPE 10 TD TWIN WHEEL TOOL GRINDER

NEW WAY

One step from rough to finish grind.

Conserve floor space—place Grinder against the wall.

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THE STANDARD ELECTRICAL TOOL CO.

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But look what he does to this live steam line. Pitch steam lines to drain condensate which might be carried to O-B GLOBE VALVE and interfere with operation.

Send for free book on valve installation tips

Ohio Brass VALVES
MANSFIELD . . . . . OHIO

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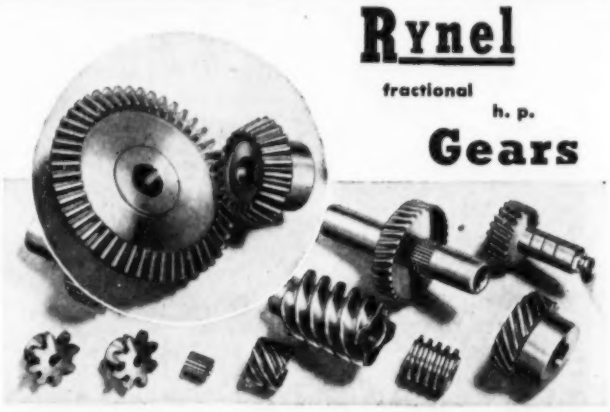
Rynel fractional h. p. Gears



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Rynel Certified Gears are made exactly to your specifications. Accuracy, tooth form and finish are controlled from the start, using accurately formed blanks from our own blanking department. Experienced gear men cut them on the latest precision equipment. Finished quality is checked by skilled gear inspectors. • That's why designers, engineers and product development men recognize Rynel Certified Gears for quality and dependability.

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Send For Our Latest Bulletin

Rynel *Corporation*
302 MILLER ST., STERLING, ILLINOIS

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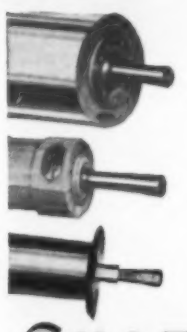
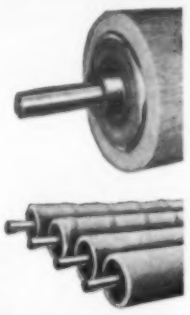
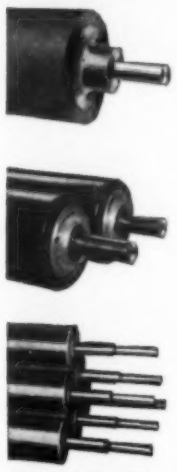


MANY INDUSTRIAL ROLL PROBLEMS are solved by using



SHAF-TITE* ROLLS



Many patented constructions provide strongest possible shaft setting. Your choice of many different types and materials—wood, rubber, iron, brass, stainless steel plastic, etc. Whatever your roll problem, put it up to Rodney Hunt.

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Industrial Roll Division
RODNEY HUNT MACHINE CO.
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Ozalid's new Ozamatic produces clear, exact copies of anything drawn, typed, printed or written . . . any width up to 16", any length . . . on a variety of papers, cloths or foils.

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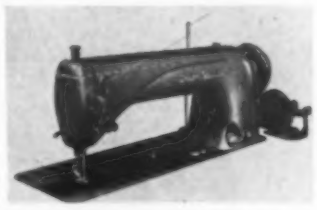
Ozalid in Canada—Hughes Owens Co. Ltd., Montreal

For more details circle NED-9699 on enclosed inquiry slip

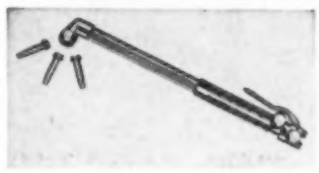
STITCHING MACHINE
for light to medium-heavy work



Improvements incorporated in class 61400 Lockstitch machines include cool-running needle bearings to reduce rotary hook and cloth-plate temperatures. Stitch length indicator of comparison type uses letters as means of reference to predetermine stitch lengths. Smooth-surfaced, taupe-colored machine is offered in two styles, A for light to medium work and B for medium to medium-heavy work. For single needle, plain seaming operations machines are designed to insure even feeding of materials and smooth, flat seam on curves. Light materials can be handled without feed marks or cutting. Made by **Union Special Machine Co.**, 416 N. Franklin St., Chicago 10, Ill.

For more details circle NED-9700 on enclosed inquiry slip

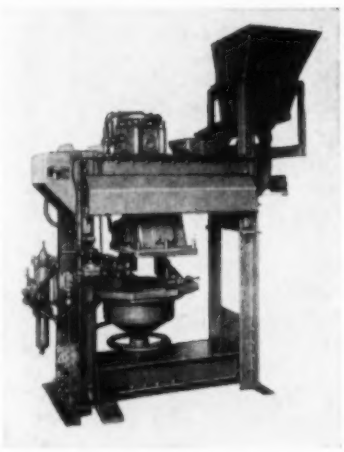
HIGH SPEED CUTTING TORCH
design eases long steady use



Oxygen and acetylene gases are mixed in head of model D Hi-Speed cutting torch, resulting in a balanced design suitable for long, steady work. Total weight is 39 oz. Capable of cutting any thickness from light gage to 10-in. steel, torch has head and valve blocks of die-forged bronze. Tubing is seamless and made of cupro-nickel for high-pressure oxygen, or bronze for low pressure and fuel lines. Pure copper tips in sizes 0 through 8 have four or six precision-drilled preheat orifices. Machined flat-on-flat leakproof coupling of tip and head facilitates fast changing of tips. Made by **Dockson Corp.**, 3855 Wabash Ave., Detroit 8, Mich.

For more details circle NED-9701 on enclosed inquiry slip

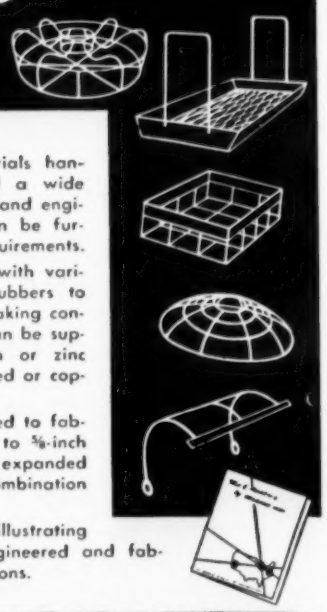
VIBRATORY SAND FEEDER
for loading sand into core blower



Automatic flow of sand into core blower is attained by vibratory sand feeder for chute or dump bucket loading. Designed to eliminate "time out" periods, nonclogging feeder delivers sand in condition for blowing, even when so stiff it can be packed into "snow balls." Once timed with core blower cycle, it requires no operator attention and will not overfeed. Action is by two rotary type vibrators. Feeder is available in 4 cu ft capacity for chute loading (shown mounted on model 3K core blower) and 6 cu ft model for dump loading. Made by **Wm. Demmler & Bros.**, Dept. E-1, Kewanee, Ill.

For more details circle NED-9702 on enclosed inquiry slip

wire fabrications



● Dishwasher racks, materials handling baskets, guards, and a wide range of specially designed and engineered wire fabrications can be furnished to meet individual requirements.

Fabrications can be coated with various types of plastics or rubbers to protect materials or parts making contact, and uncoated shapes can be supplied with nickel, cadmium or zinc plated, parkerized, bonderized or copper finish.

Coleman-Pettersen is prepared to fabricate shapes from wire up to ⅝-inch in diameter, wire mesh, expanded metal, sheet metal or any combination of these materials.

Write today for bulletin illustrating shapes that have been engineered and fabricated for specific applications.

281-COP

Wire and Metal Manufacturing by
COLEMAN-PETTERSEN CORP.

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For more details circle NED-9703 on enclosed inquiry slip

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WILLSON® DUST HOOD

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Style No. 2 with No. 46 Respirator.
Available without respirator

- Wide vision acetate window 33 sq. in.
- Windows interchangeable, replaced in a matter of seconds.
- Can be used with any Willson single filter respirators for dusts, mists, gases, vapors.

See your nearest WILLSON distributor or write us direct.
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For more details circle NED-9704 on enclosed inquiry slip

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For large business
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For all business

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GENERAL BOX COMPANY..
★★★★★ engineered shipping containers

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Continental Box Company, Inc., Houston, Dallas.
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For more details circle NED-9705 on enclosed inquiry slip

SEAL OFF LEAKS

√Quick!
√Easy!
√Low Cost!

Stop Moisture Penetration thru Basement Walls . . .

Leaks in concrete walls, masonry, cinder block, etc. can be stopped quickly with FLEXTITE. Actually seals against water pressure. Efficient as a trowel coat for sealing off water and dampness. Transforms leaky basement walls into dry surfaces. Used in elevator pits, tunnels, dams, tanks, retaining walls, etc. (Minimum quan. 6 gal.)

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Please send me complete FLEXTITE information and details of TRIAL ORDER PLAN—no obligation.
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Company .....
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BOOST PRODUCTION WITH

SINGLE-ACTING

AIR CYLINDERS

Bore	Strokes Horizontal	Strokes Vertical
1"	⅝"	⅝"
2¼"	1" 2" 3"	1" 2"
3"		½" 2"
4"	2" 2½"	2"
5"	3"	3"
6"	3"	2"

NEW CATALOG READY!
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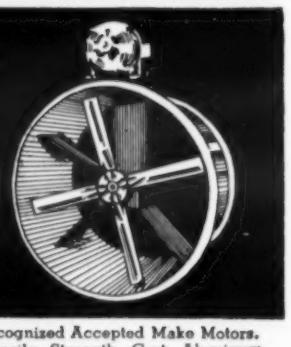
MEAD SPECIALTIES COMPANY
4114 NO. KNOX AVE., DEPT. N-121-A, CHICAGO 41, ILL.

For more details circle **NED-9707** on enclosed inquiry slip

ARE YOU FUMING OVER FUMES?



Belt Driven Duct Fan. Powered by Recognized Accepted Make Motors. Propeller Pitch Adjustable. High Tensile Strength Cast Aluminum Blades.

BELT DRIVEN DUCT FANS. For spray booths, volatile or explosive fumes, excessive temperatures, dust or any operation requiring the motor to be out of the air stream.

JOB fitted DUCT FANS in sizes from 14" to 72" in diameter and from 1000 to 100,000 C. F. M.

Utility Man Cooler
Portable Man Coolers
Roof Ventilators
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Duo Duct
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Represented in All Principal Cities
Write Dept. 201 for complete catalog

THE HARVEY P. BERTRAM CO.
1008 W. Ninth St. Cincinnati, Ohio

For more details circle **NED-9708** on enclosed inquiry slip

YES... YOU CAN HEAR IN NOISY SPOTS

USE Burgess-Manning ACOUSTI-BOOTHS

You can hear easily . . . talk comfortably . . . in a Burgess-Manning Acousti-Booth. Thick walls of sound-absorbent material soak up noise. Conversations are clearer . . . "private." Airy, no door . . . easily moved . . . sturdy construction.

Mail Coupon for FREE BULLETIN

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Architectural Products Division
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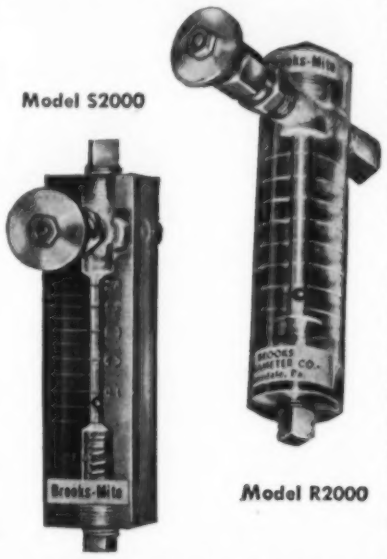
Please send booklet describing Burgess-Manning Acousti-Booths.

Name_____
Firm Name_____
Street-City_____

For more details circle **NED-9709** on enclosed inquiry slip

FLUID PURGE METERS
spherical float shows flow rate accurately in plastic metering tube

Packing glands and glass parts are eliminated in design of Brooks-Mite acrylic plastic purge meters which come in four sizes with range of 0.01 to 54.0 gph of water and 0.2 to 216 cu ft per hour of air. Rate of flow is visibly indicated by position of spherical float in metering tube. This tube and all piping connections are bored from plastic block.



Two standard models, available for metering flows where high accuracy is not required, are model R 2000 with etched indication marks and model S 2000 with standard calibrations for either direct flow air or water readings. Both models are safe for pressures up to 100 psi and maximum working temperature from 180-200° F. Standard bezel is obtainable for flush panel mounting of either model. Made by **Brooks Rotameter Co.,** Box 4320P, Lansdale, Pa.

For more details circle **NED-9710** on enclosed inquiry slip

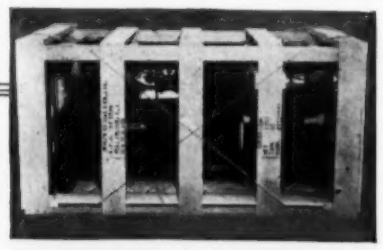
FORCE-BALANCE CONTROLLER
adaptable to flow, liquid level and pressure applications

Transet Bi-Act controller is designed for transmitting measured variable to some remote location. It is adaptable to flow, liquid level or pressure applications requiring fast reset rates and broad throttling bands, or applications where derivative action is not essential. Nonindicating, force-balance controller has one-knob adjustment for two control responses. It is component part of Taylor Transet control system which includes Tri-Act controller, Transaire transmitters and miniature Transet recorder.

Controller action can be changed quickly without disturbing piping connections. Optional plug-in mainfold provides simple means for connecting or removing controller. Built-in cutoff relay makes possible panel or field mounting. Unit measures 7½ in. long and has adjustment of 1 to 200 per cent throttling range and automatic reset of 0 to 100 repeats per minute. Made by **Taylor Instrument Cos.,** 53 Ames St., Rochester 1, N. Y.

For more details circle **NED-9711** on enclosed inquiry slip

This Diagonal Tie on crated machinery prevents torsional sway. It is galvanized to resist corrosion.



Tie defense orders safely...

WITH GERRARD ROUND STEEL STRAPPING

It complies with packaging specifications JAN-P-106A, JAN-P-107 and JAN-P-108

● You won't have to worry about either the acceptability or the safety of defense orders tied with Gerrard Round Steel Strapping. It makes a tight, firm tie every time it is used.

You'll be pleased with the versatility of Gerrard Strapping, too. In addition to its suitability for securing boxes, cartons, and cases, Gerrard Round Strapping is the ideal choice for reinforcing all types of pallets, even such irregularly shaped objects as auto springs and axles. And with Gerrard Steel Strapping it is easy to fashion the Diagonal Tie for dependable reinforcement of all six sides of a carton or crate.

A Gerrard engineer will gladly consult with you about your defense strapping problems. Strapping ordered for defense receives preference in delivery according to current regulations. Strapping for non-defense purposes is being equitably distributed among our customers.

Gerrard Steel Strapping Company
4717 S. Richmond Street, Chicago 32, Ill.

USS

UNITED STATES STEEL

For more details circle **NED-9712** on enclosed inquiry slip

YOURS... for the asking

3 HELPFUL FOLDERS

featuring tips for extending the service life of plant equipment

• FACTUAL INFORMATION and easy-to-follow illustrations make these folders valuable to plant engineers and maintenance men . . . and important additions to any power transmission service manual. Send for copies. The Fafnir Bearing Company, New Britain, Connecticut.

FAFNIR BALL BEARINGS
MOST COMPLETE LINE IN AMERICA

For more details circle **NED-9713** on enclosed inquiry slip

AJUSTRITE TRADE MARK

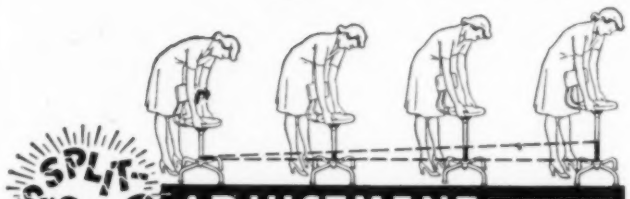
AUTOMATIC ADJUSTABLE STOOLS

Ajustrite (formerly Kewaunee) adjustable stools and chairs are used extensively in Factories, Laboratories, Hospitals, Offices, Schools, Colleges and Government Agencies. User adjusts to any desired height—instantly.

Choice of 7 models. Height adjustment 15" to 20"; 18" to 26". May be equipped with adjustable back rest, foot rest, seat cushion.

Write for literature and free trial offer.

AJUSTO EQUIPMENT CO.
2144 Madison Avenue Toledo 2, Ohio



SPLIT-SECOND ADJUSTMENT ★★★ TO ANY HEIGHT DESIRED

For more details circle **NED-9714** on enclosed inquiry slip

YOU CAN TAKE IT WITH YOU!

BECKER *Self-Contained* SPRAY GUN
PRESSURE-POWERED with INEXPENSIVE CO2 CARTRIDGE

This *completely* portable spray gun is saving money in many industrial uses. Excellent for maintenance operations. Requires no compressor, motor, or electrical outlet. Has 21 liquid ounce capacity, heavy-gauge, steel container; cast aluminum head; brass and stainless steel inserts. Low cost CO2 cartridge sprays up to one container full, depending on viscosity. Use it for paint, varnish, enamel, oil, fire-proofing, rust-proofing, disinfecting. If your industrial distributor can't supply you, order direct and we will ship postpaid. (Extra CO2 cartridges 10 for $1, postpaid, or buy them from your local dealer.)

ONLY $15.95 with three cartridges

SULLIVAN BECKER CO., DEPT. 171-M Kenosha, Wis.

For more details circle **NED-9715** on enclosed inquiry slip

SLY "ECONOMY" DUST FILTERS
Small, Compact, Inexpensive

The Sly ECONOMY Dust Filter is especially suited for collecting the dust from individual machines or from a small group of dust points in close proximity to each other. It is compact yet it has an abundance of filter cloth which helps to maintain a uniform suction.

This filter offers: (1) *High Efficiency* with complete dust collection; (2) *Low Power,* a 3 HP motor will handle 1400 cu. ft. per minute; (3) *Long Life* because a very liberal amount of filter cloth is used; (4) *Compactness* because the filter cloth occupies a minimum of space; (5) *Effective Bag Cleaning* by means of a simple shaking device.

Made in four standard sizes, to filter dust out of 300 to 1400 cu. ft. air per minute. Write **The W. W. Sly Manufacturing Co.,** 4748 Train Avenue, Cleveland 2, Ohio. Branches in: New York • Chicago • Philadelphia • Syracuse • Detroit • Buffalo • Cincinnati • St. Louis • Indianapolis • Birmingham • Los Angeles • Toronto Advt.

▲ For more details circle **NED-9716** on enclosed inquiry slip ▲

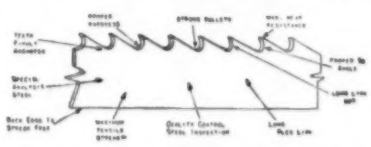
HOSE COUPLING
releases instantly in emergency

Tight nonslip coupling of truck tank hose to multiple units can be completed quickly without tools using Kamlok coupling assemblies. Coupler is merely slipped over adaptor and cam levers are pressed to form a nonleak fit regardless of place in line or hook-up. This utility truck faucet combination minimizes twisting, kinking and straining of hose, reduces loading and delivery time and avoids damage to coupling and faucet. Sizes 1 to 3 in. are manufactured of hard bronze for long wear while the 4-in. size is made of Opalumin, high-tensile aluminum alloy, for minimum weight and ease of handling. Pulling cam lever rings outward permits instant release of coupling in emergency cases. Made by **OPW Corp.,** Dept. NED, 2735 Colerain Ave., Cincinnati 25, O.

▲ For more details circle **NED-9718** on enclosed inquiry slip ▲

HIGH-SPEED SAW BAND
saw velocity ranges up to 15,000 fpm

Specifically designed for high-speed friction sawing which entails saw velocities up to 15,000 fpm, friction saw band can cut 1/16-in. thick stainless steel at rate of 1200 linear inches per minute. At such high velocity work is brought to forging temperature through friction created between blade's cutting edge and material being cut. Material thus softened is removed from kerf by teeth of blade. Saw is offered in ½, ¾ and 1-in. widths, with 10 or 14 teeth per inch, and is available in either 500-ft coils or custom welded cut lengths. Made by **DoALL Co.,** 256 N. Laurel Ave., Des Plaines, Ill.



▲ For more details circle **NED-9719** on enclosed inquiry slip ▲

WET-DRY VACUUM CLEANER
mounted on casters for portability

All types of heavy duty cleaning operations are performed by this model WD-23 wet-dry vacuum cleaner. Three-stage turbine is driven by 1-hp universal electric motor and develops water lift of 63 in. to pick up water, dirt and dust. Porcelain-lined corrosion-proof 15-gal tank has dump valve for quick draining. Positive shut-off warns operator when tank is filled. Machine is furnished with hose, wand, water pick-up squeegee tool and pick-up tool for carpets. Special cleaning tools are also available. Made by **Clarke Sanding Machine Co.,** Dept. NED-P, 30 E. Clay St., Muskegon, Mich.

▲ For more details circle **NED-9720** on enclosed inquiry slip ▲

This low-cost, portable pump will MOTORIZE your hydraulic equipment

Eliminate costly hand pumping: This electrically-driven pump serves one or more rams. Production zooms — sometimes it triples. Great on presses, pipe benders, etc. Write for catalog. Buy from leading supply houses.

Blackhawk Mfg. Co., Dept. P-14121
Milwaukee 1, Wis.

- P-182 Pump (above) combines motor, valves, pump and oil reservoir in one compact unit.
- 10,000 p.s.i. hydraulic pressure. Weight—only 84 lbs.
- Low cost

BLACKHAWK

▲ For more details circle **NED-9722** on enclosed inquiry slip ▲

Try This for SIZE!

Federal Model 1000 Series Indicating Snap Gage shows dimensional variations clearly on the Dial—not just "go, no-go". It lets the man at the machine see how he's doing so he can prevent scrap BEFORE it happens. Model 1000 Gage feels like a conventional "go, no-go" gage, handles like a conventional gage, and is even easier to adjust for size. It will pay you to use Model 1000 in your production department. Five Gages cover O.D.'s from 0 to 6". Only $57.50 for any one Gage with .0005" graduations. Write for complete details. FEDERAL PRODUCTS CORP., 1712 Eddy Street, Providence 1, R. I.

FEDERAL
Largest manufacturer of indicating type gages . . . exclusively.

▲ For more details circle **NED-9723** on enclosed inquiry slip ▲

MAKE THIS FREE TEST
and discover for yourself there's no better direct positive print paper

NOW you can have longer-lasting direct prints that fairly sparkle with contrast

You get blacker-than-ever lines on whiter-than-ever backgrounds with DIRECTO, the new, improved Dietzgen semi-dry process that gives you ready-to-use direct positive prints in seconds. DIRECTO prints fight wear and tear, and even when oil-soaked, grime-smeared, sweat-stained they retain amazing legibility.

You are assured of uniformity because DIRECTO developing solution is chemically stable, always brings out strong black images, whether mixed fresh or old. And there's no washing, no lengthy drying, no negative needed. DIRECTO prints are made direct from your translucent original.

Compare this remarkable material with any other you have ever used. DIRECTO is available now with blue, pink, yellow and green backgrounds, as well as white, for convenient color coding. Send for samples.

EUGENE DIETZGEN CO. • Chicago • New York • San Francisco
New Orleans • Los Angeles • Pittsburgh • Washington
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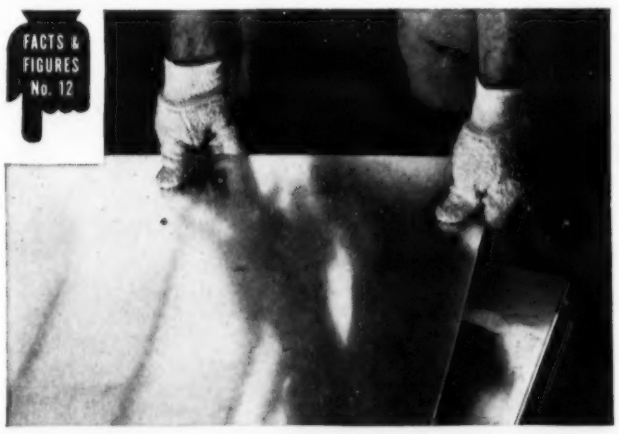
DIETZGEN
EVERYTHING FOR DRAFTING SURVEYING & PRINTMAKING

Free Samples!

▲ For more details circle **NED-9717** on enclosed inquiry slip ▲



JOMAC GLOVES
save 90c per man per workday in handling sheet metal

A large manufacturer of kitchen appliances* tested all types of gloves for handling sheet metal. Jomac proved superior to any other glove tried. The company standardized on Jomac. Cost records show Jomac is now saving the company 90c per man per workday.

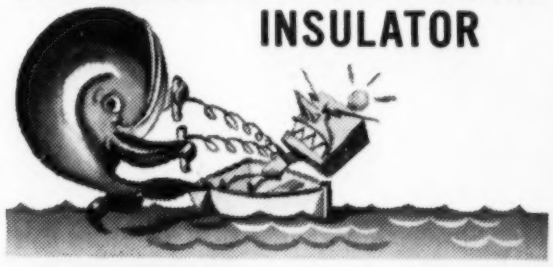
*Name on request

JOMACS ARE
Washable . . Reversible . . Flexible . . Heat-resistant
Protect against heat, cold, rough and sharp edges

C. WALKER JONES CO.
6135 N. Lambert Street, Philadelphia 38, Pa.

▲ For more details circle **NED-9721** on enclosed inquiry slip ▲

SYNTHANE is a Whale of an INSULATOR



Synthane laminated plastics have a *combination* of superior electrical qualities that may make them just the materials you've been seeking to make your product better.

One advantage is excellent electrical insulating ability. Others are high dielectric strength, low dielectric constant and low power factor. Together with Synthane's light weight, ease of machining and good mechanical and chemical characteristics, they make Synthane a valuable material for many applications in almost every industry.

If your present materials are in any way unsatisfactory and your quality standards are high it may pay you well to find out more about Synthane. For your copy of the Synthane catalog, clip and mail the coupon today.

TECHNICAL PLASTICS
SHEETS • RODS • TUBES
FABRICATED PARTS
SYNTHANE
MOLDED-LAMINATED
MOLDED-MACERATED

SYNTHANE CORPORATION
North East River Road, Oaks, Pa.
Please send me a copy of the complete Synthane catalog.
Name_____
Firm_____
Address_____
City_____ State_____

▲ For more details circle **NED-9724** on enclosed inquiry slip ▲

BCRS1

▲ For more details circle NED-9725 on enclosed inquiry slip ▲

FLEXIBLE HEATING TAPE
produces high heat without wire glow

Small glass vessels of standard or odd shape, such as distilling or fractionating columns, can be heated with flexible heating tape which produces high wattages without excessive heating of wire. Tape consists of resistance wire covered with double insulating sheath of white braided Fiberglas yarn, complete with lead wires for connection to 110 or 220-v current. Fire danger is minimized because wire heat is well below glow point. Tapes are available in 2, 4 and 6-ft standard lengths, rated 115, 190 and 275 w, respectively. Standard width is ½-in., but any width from ¼ to 2 in. is available with wattage varying with length and width. Made by **Scientific Glass Apparatus Co.,** 117 Lakewood Terrace, Bloomfield, N. J.

▲ For more details circle NED-9728 on enclosed inquiry slip ▲

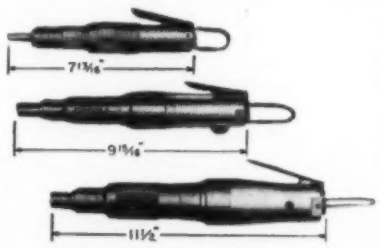
ADJUSTABLE STOOL
has no sharp edges, nuts or bolts

Metal edges enclosing Masonite seat are completely rolled under in adjustable extension stool, available in two models. Perforated Masonite seat diameter is 14 in., and legs and center foot ring are constructed of ⅞-in. steel tubing. Model 317 is adjustable from 17 to 25-in. height while model 324 adjusts from 24 to 32 in. at 1-in. intervals. All metal is finished in smooth baked enamel, office green or gray. Chrome plated rubber-cushioned glides add to stool's utility. Made by **Maso Steel Products,** Dept. ND, 81 W. Van Buren St., Chicago 5, Ill.

▲ For more details circle NED-9729 on enclosed inquiry slip ▲

AIR SCREW DRIVERS
made in three basic sizes

Cushion clutch incorporated in line of pneumatic screw drivers consists of two units: engaging clutch and torque limiting clutch. Engaging clutch enables screw driver to be moved from screw to screw without stopping motor, as slight forward pressure is necessary to rotate bit. Torque limiting clutch enables operator to drive all screws to same degree of tightness. Adjustments in torque are readily made. Direction of exhaust air can be adjusted by changing deflector position. Series 000 drives screws up to No. 8 free-running or No. 5 self-tapping. Series 00 handles up to ¼-in. free-running or No. 10 self-tapping, while series 0 will drive screws up to 5/16-in. free-running or ¼-in. self-tapping. Made by **Ingersoll-Rand Co.,** Dept. PT, 11 Broadway, New York 4, N. Y.

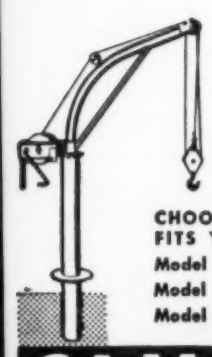


▲ For more details circle NED-9730 on enclosed inquiry slip ▲

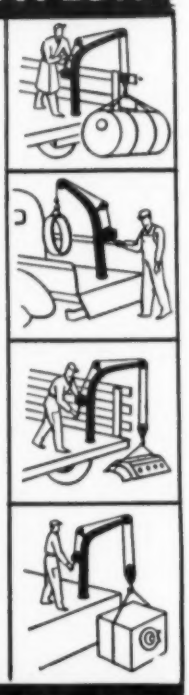
REEVES BROTHERS, Inc., 54 Worth Street, New York 13, N. Y.

▲ For more details circle NED-9732 on enclosed inquiry slip ▲

BLUE HERON
TRUCK CRANE SAVES..
TIME • MONEY • LABOR



ONE MAN can handle up to ONE TON easily with BLUE HERON TRUCK CRANE—and with greater safety! Crane swivels through full circle and can be lifted from socket by one man—leaving truck body clear. Many operators equip all trucks with sockets, change cranes from truck to truck as needed. Simple to install!

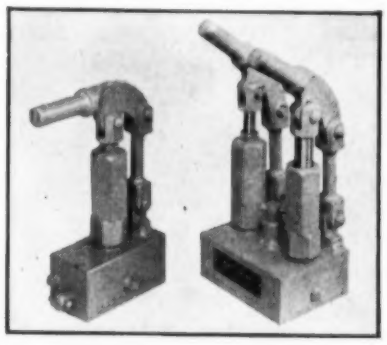


CHOOSE THE MODEL WHICH FITS YOUR REQUIREMENTS
Model O.C.30A Cap. 500 lbs.
Model O.C. 30B Cap. 1000 lbs.
Model O.C.30C Cap. 2000 lbs.

CAM TOOL COMPANY, INC.
288 22nd STREET • OAKLAND 12, CALIF.

▲ For more details circle NED-9726 on enclosed inquiry slip ▲

HAND HYDRAULIC PUMP
Single and Double Designs To 20,000 Pounds



Interchangeable Pistons ⅜-½-¾ inch
★
Integral Release Valve
★
Unit Reservoir 360 cu. in.

Pressure range is 3,000 to 20,000 pounds. Pipe connections measure ¼ inch. Handle length is 18 inches. Weight is 8 to 18 pounds. Can be bolted or welded into position.

WILLIAM S. PINE
1635 E. 22nd St., Los Angeles 11, Calif.

▲ For more details circle NED-9733 on enclosed inquiry slip ▲

SAVE ON PARTS AND MATERIALS

THIS FREE DISSTON BOOK TELLS YOU HOW!

This new Disston guide is a "must" reference book for every engineer, designer, and purchasing man. It gives you the story of Disston Custom Steel Parts: what they are; how they are made; typical products; how to order. And it blue-prints the facilities of the Disston Custom Parts Plant for handling intricate designs, exacting tolerances, and special heat treating . . . to individual specifications. We'll gladly send your copy on request—write on your letterhead or use the coupon.

HENRY DISSTON & SONS, INC.
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(Canadian Factory: Toronto 3, Ont.)

FIGHT WASTE

Please send me FREE, without obligation, your reference book on Disston Custom Steel Parts.

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ADDRESS _____
CITY _____ ZONE _____ STATE _____
COMPANY _____

▲ For more details circle NED-9727 on enclosed inquiry slip ▲

FOR PROOF BEYOND COMPARE
Send for
RUBYFLUID
Soldering Flux
Special Offer

For $1 Ruby will send you one pint of liquid and one half pound of paste soldering flux.

Try it! See for yourself the amazingly stronger, smoother and longer lasting unions you get when you use Rubyfluid.

Rubyfluid
Wets out freely . . .
Has no harmful fumes . . .
Acts quickly and saves time . . .

In addition Ruby will send you Free a new booklet on "How to Solder."

SEND YOUR $1 TODAY TO—

Ruby Chemical Co.
72 McDowell St.
Columbus, Ohio

Rubyfluid

▲ For more details circle NED-9731 on enclosed inquiry slip ▲

built to stand up
and take it

MECO Single-Roll Crushers are the recognized leaders in the field. They are ruggedly built to do the job of reducing shales, fire clays, rock, and grog.

Renewable-tooth rolls, safety breaking plates, reversible wearing plates, substantial frames and gears, oversize bearings—these are but a few features of this MECO Crusher.

Ask for full details.

The Manufacturers Equipment Co.
218 Madeira Ave. ▪ Dayton 4, Ohio

▲ For more details circle NED-9734 on enclosed inquiry slip ▲

MORE SPEED MORE SUPPORT

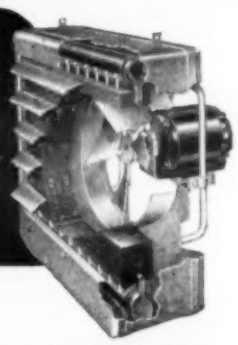
MAKES BAND-SAWS CUT AT ANGLE UP TO 45%

PADDOCK BALL-BEARING BAND-SAW GUIDES (MODEL 20) enables a 36" machine to cut material 22" wide at an angle up to 45%. Guides are quickly adjusted to width, thickness, and blade angle. The lower unit pictured at right shows angular adjustment. Note the interchangeable ball-bearing wheel action. Turning with the blade, the wheels hold the working portion of the blades as in a frame—for faster cutting, less blade breakage, and cutting more materials. Install inexpensive PADDOCK GUIDES and you save money as well as make old or new band saws cut more efficiently. Write for prices and details on PADDOCK GUIDES—today!

PADDOCK TOOL CO.
Guide Makers Since 1920
1418 Walnut St. Kansas City, Mo.

Paddock BALL-BEARING **BAND SAW GUIDES**

For more details circle NED-9735 on enclosed inquiry slip



Less Overhead When You HEAT Over Head with...

DUNHAM UNIT HEATERS

Why let ineffective heat distribution run up fuel bills—and overall operating expenses?

Why not look into these Dunham Horizontal Discharge Unit Heaters—see how they give you heat where you need it most . . . quietly.

Dunham's resiliently mounted motors; slow-speed fans; and sturdy one-piece fan shroud—all combine to direct air efficiently through individually adjustable louvers.

For complete information about long-lasting, expense-saving Dunham heaters, WRITE FOR BULLETIN 1301-14.

DUNHAM

C. A. Dunham Co.
400 W. Madison St., Chicago 6, Ill.
In Canada:
C. A. Dunham Co. Ltd., Toronto
In England:
C. A. Dunham Co. Ltd., London

HEATING SYSTEMS AND EQUIPMENT

For more details circle NED-9736 on enclosed inquiry slip

New INVINCIBLE "ALL SERVICE" Vacuum Cleaner

For Both Wet and Dry Recovery

Invincible "All Service" Model 507—⅜ H. P.

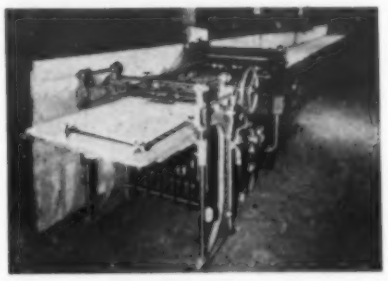
A frequent difficulty of vacuum cleaners with both wet and dry pickup is loss of efficiency due to humidity causing the filter bag to seal . . . *The advanced design of the new Invincible "All Service" entirely eliminates this problem!* After years of use, the new "All Service" will *continue* to operate at peak efficiency . . . The new Invincible "All Service" also has a *positive, automatic shutoff valve* in the water tank. It prevents messy overflowing that often damages the cleaner.

Write for complete information

INVINCIBLE VACUUM CLEANER MFG. CO.
DOVER, OHIO

For more details circle NED-9737 on enclosed inquiry slip

CONVEYOR GLUER
28-in. model has automatic feed



Strip or solid gluing of paper of all weights up to three-ply index and in sizes from 6 x 6 in. to 28 x 36 in. can be performed automatically on this conveyor gluer. Sheets are fed and delivered glue side up on endless belt conveyor. Forced drying equipment and suction conveyor for thin sheets can be installed, if required. Machine has variable speed control up to 3000 sheets per hour. It can use any kind of glue, because it has a thermostatically controlled pot for hot glue. Suction pile feeder has sidewise register control. Made by **Potdevin Machine Co.**, 1285-A 38th St., Brooklyn 18, N. Y.

For more details circle NED-9738 on enclosed inquiry slip

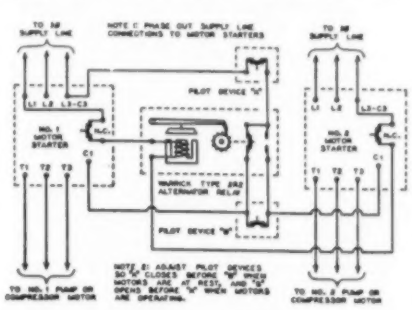
WELDING FITTINGS & JOINT
for corrosion-resisting coated pipe

Turbulence, a cause of failure in corrosion-resistant coated piping, is eliminated by use of this line of fittings which have internal diameter identical with pipe. Mechanical type joints are only type available for use with internally coated piping systems at present. Fittings and joints are offered in all standard sizes and types from ½-in. up to 30 in. They are coated or lined with corrosion resistant coatings in manufacturer's plant, but slight alterations can be made in field. Coating destroyed by welding is restored by application of cold setting compound to both interior and exterior. Fittings and coatings can be used in handling steam return condensate, salt water, chemicals, industrial wastes and sewage. Made by **Welstrom**, Dept. NED, Fifth St. & N. Ford Blvd., Hamilton, O.

For more details circle NED-9739 on enclosed inquiry slip

ALTERNATE SERVICE RELAY
for duplex pumps and compressors

Available in open or enclosed design, type 2R2 relays maintain alternate operation of twin installations of such equipment as pumps and compressors in which float or pressure switches are employed in driving motor circuits. When load increases to point where one unit is of insufficient capacity, relay causes second unit to assist first until normal shutoff level or pressure is obtained. Each motor in installation requires auxiliary normally-closed contact element wired in series with alternator relay coil, or control combination can be specified to consist of alternator relay and two auxiliary relays mounted in single metal enclosure. Made by **Charles F. Warrick Co.**, 1966 W. Eleven Mile Rd., Berkley, Mich.

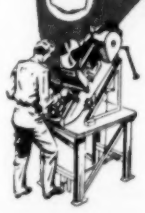


For more details circle NED-9740 on enclosed inquiry slip

MARKEM®

Carter's, Bowes Seal Fast, RCA, Van Heusen, Sylvania Electric, Mallory, Mangano Electric, Lilly, Kodak, Convair, Simonds, Textron

made to make your MARK



MARKEM helps make their names famous

Under these trade marks are made products ranging from nylons to aircraft. They include garments, hosiery, knit goods and textiles, radio and TV tubes, capacitors and resistors, vulcanizing equipment, cameras, pharmaceuticals, hand grenades, cartridges and canvas goods. All over the world, Markem methods, machines, type and inks are marking the products of industry.

There is a Markem method for almost every identification purpose. Markem Equipment is used for Marking on Products, Packages, Parts, or for producing Labels.

Submit *your* problem in detail with a sample of the item to be marked. Markem Machine Company, Keene 3, New Hampshire.

MARKEM BETTER MARKING SINCE 1911

For more details circle NED-9741 on enclosed inquiry slip

BY MAKERS OF RELIANCE Precision-Built MOTORS

To improve your production . . . Electric Speed Indicator

combining both
- PRECISION CONSTRUCTION
- LOW PRICE

Only $71 complete
(less in quantities of two or more)

Continuous visual speed indication by this sturdy instrument will help you improve quantity and quality of production—detect machine troubles *in time*—reduce spoilage. Accurate indications from 100 to 5000 rpm.—special scales to your order. *Write for Bulletin A-2406.*

RELIANCE ELECTRIC AND ENGINEERING CO.
1082 IVANHOE ROAD • CLEVELAND 10, OHIO

Sales Representatives in Principal Cities

For more details circle NED-9742 on enclosed inquiry slip

Grinds cover rim in 5 seconds ...far faster than milling!

PORTER-CABLE
Abrasive Belt Machining

Previously, aluminum cover shown above was loaded in fixture, then faced on milling machine.

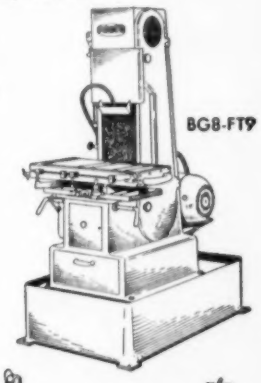
Now, rim is ground flat, by hand presentation, on Porter-Cable Model BG8 Abrasive Belt Machine. No fixture necessary. Surfacing time, including handling: 5 seconds.

Abrasive Belt Machining removes stock rapidly, provides fine finish free of tool marks. Greatly simplifies fixtures—or eliminates them entirely. Is often 10 times faster than milling, shaping or ordinary grinding—frequently saves 75 to 90% of former set-up time.

Wet-belt or dry-belt models (determined by material to be worked) available for flat surfacing, contour grinding, centerless grinding, generating radii, chamfering, beveling, burring and polishing.

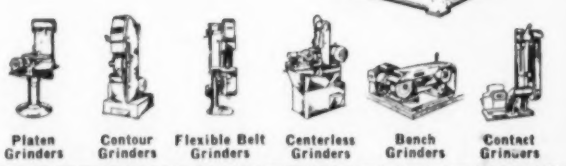
Send for free booklet—shows how Abrasive Belt Machining reduces cost on many operations.

MODEL BG8-FT9 (with automatic feed table). For precision surfacing on repeat operations. 8"-wide belt works entire areas at once. Quickest method on interrupted surfaces.



BG8-FT9

Abrasive Belt Machines for Every Application



Platen Grinders | Contour Grinders | Flexible Belt Grinders | Centerless Grinders | Bench Grinders | Contact Grinders

PORTER-CABLE MACHINE CO.
6032 N. Salina St., Syracuse, N. Y.

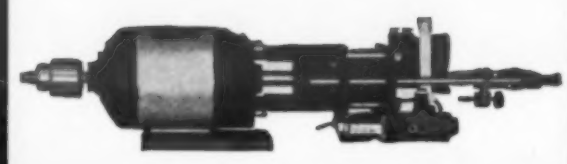
Please send me your booklet, "Abrasive Belt Machining."

Name .....
Firm Name .....
Address .....
City ..... State .....

Mfgrs. of SPEEDMATIC and GUILD Electric Tools
In Canada write: Strongridge, Ltd., St. Catharines, Ont.

For more details circle NED-9743 on enclosed inquiry slip

New BLACK SELF-CONTAINED DRILLING UNITS



NO SPLINES

Self-contained units, at low cost, for drilling, tapping, chamfering, reaming and similar operations.

NO GEARS

New principle employs traversing motor shaft for work spindle, applies even torque with practically no end play. Drill has air feed for rapid advance to work—hydraulic control to completion of work cycle with uniform feed. Tapping unit controlled so tap follows its own lead without chamfering first thread or stripping threads on return stroke. Easy adjustment—depth accuracy to within .001".

NO CAMS

NO CLUTCHES

NO REVOLVING WEIGHTS

Operate in any position. Wide range of speeds and sizes.

Write for complete information

THE BLACK DRILL COMPANY
1380 EAST 222nd STREET CLEVELAND 17, OHIO

For more details circle NED-9744 on enclosed inquiry slip

Put Together With TAPE

AIRCRAFT - TANKS - GUNS

PARTS NUMBERED-WIRING MARKED
INSTRUCTIONS POSTED-PIPES CODED
WARNINGS PLACED-WITH TOPFLIGHT
PRINTED, PRESSURE-SENSITIVE TAPES

Topflight Tape
TOPFLIGHT TAPE CO.
YORK, PA.
U. S. A.

For more details circle NED-9745 on enclosed inquiry slip

CONTROL POWER BETTER

ROCKFORD CLUTCHES

For more details circle NED-9746 on enclosed inquiry slip

TAPPING MACHINE travel of table allows centering of any hole in 24 x 40-in. workpiece

Where multiple tapping heads are not practical, type ER compound-table tapping machine facilitates precision tapping of several same-size holes on one or more levels in bulky pieces. Moving on ball-bearing raceways, 28 x 42-in. work table has lateral travel of 20 in., 13-in. forward and 11-in. backward travel from normal position, making it possible to center any hole in 24 x 40-in. workpiece. Motor-operated raising and lowering system gives table 18-in. vertical travel with top 56 in. from floor at maximum height.

Standard type E head is employed, using tool steel lead screws and split bronze lead-screw nuts to insure precision in high speed tapping. Throat depth which measures 26½ in. allows handling of work that overhangs back of table. Jigs, fixtures and clamps can be mounted in four precision-machined Tee slots in table top. Machines are available in several sizes for tapping holes from ⅜ to 2¾ in. in mild steel. Made by **Cleveland Tapping Machine Co.**, 1212 Camden Ave. S. W., Canton, O.

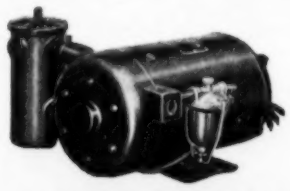
For more details circle NED-9747 on enclosed inquiry slip

FLUORESCENCE ANALYZER is nondestructive and allows analysis of small specimens

Rapid qualitative and quantitative analysis of constituents in metals, minerals, ores, chemical mixtures and compounds is possible with Norelco fluorescence analysis unit which employs wide-range vertical goniometer with sweep radius of 170 mm. It also uses horizontal water-cooled oil - insulated x-ray tube operated from standard defraction unit.

Specimen is exposed to intense exciting x-radiation which causes individual rays to be generated by susceptible elements. Combined radiations are passed through collimating system to analyzing crystal which reflects individual rays at specific angles. Intensities are measured by volume-sensitive Geiger counter, the output of which drives strip chart recorder or count register. Unit operates at potentials up to 50 kv peak and at current values up to 50 ma. It is nondestructive, permitting analysis of tiny specimens. Made by **North American Philips Co.**, Research & Control Instruments Div., 750 S. Fulton Ave., Mt. Vernon, N. Y.

For more details circle NED-9748 on enclosed inquiry slip



Rotary Type
VISIBLE LUBRICATION
No "Discharge Oil"
MADE IN FOUR SIZES
for VACUUM & PRESSURE

MOTOAIR* PUMP

Hardly larger than an electric motor of a given size, the MOTOAIR pump has *automatic lubrication;* no valves to turn on or off. Built integrally with its motor, it has less parts to wear, and the rotor blades compensate for *their* wear.

Compact • NO BELTS • NO GEARS • NO EXTENDED DRIVES

Motoair Pumps can be supplied for ceiling, wall or normal mounting without impairing operation. Widely used in many industries, especially in packaging machinery, paper handling, vacuum frames, etc.

BUILT-IN EXHAUST AIR FILTER

Ask for Catalog Details!

816 *Reg. U. S. Pat. Off.

NEW JERSEY MACHINE CORPORATION
1530 Willow Ave. • Hoboken, N. J.
Factory offices in Chicago, Cincinnati, Los Angeles

For more details circle NED-9749 on enclosed inquiry slip

NO Lubricant Cost
NO Lubrication Labor
TRANSALL Heavy Duty Idlers are Pre-Lubricated

Because of the permanent lubrication and the rugged construction, TRANSALL Idlers have a greater life expectancy than other makes of idlers. The more severe the service, the greater this advantage.

Why not investigate how we can help you keep operating costs to a minimum?

TRANSALL Idlers will probably slip right into your present installations, since they are dimensionally interchangeable with most leading lines.

Immediate Shipment

TRANSALL INC.

Manufacturers of a complete line of Belt Conveyor Equipment

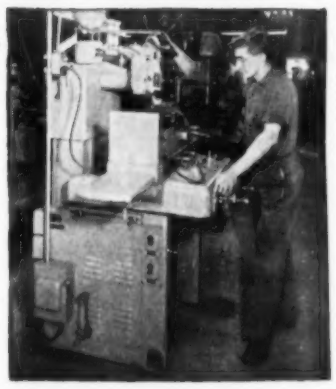
119 North 11th St. Birmingham 4, Ala.

For more details circle NED-9750 on enclosed inquiry slip

SAVES 5½ HOURS GRINDING FORM TOOL

DoALL "COOL-GRINDING"
(U.S. PATENT NO. 2470350)

Principle Makes Possible Faster Work, Gives Straighter Cut, Prevents Warping



TAKE a tip from Biddle Screw Products, Sheridan, Indiana. The carbide bar in one of their large screw machines would warp under normal cutting conditions. The cut was taking ¾ of a day and the piece wasn't always satisfactory.

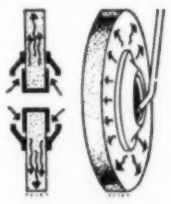
Then they turned to DoALL "Cool-Grinding" of the carbide bar. The coolant *flows through* the wheel and atomizes at the point of work. *Standard wheels are used.*

RESULTS? No warping, a straight cut, perfect pieces — *and only 30 minutes to do the job!*

SEE FOR YOURSELF. Ask to have a Free DEMONSTRATION right in your own plant. Call your local DoALL Sales-Service Store or write:

THE DoALL COMPANY • 254 N. Laurel Ave., Des Plaines, Ill.

"COOL-GRINDING" COOLS AT THE POINT OF CONTACT . . .



Coolant is metered into the hub of the wheel, forced centrifugally through the pores and out in a fine mist *at the point of contact of wheel and work.* No other system gives such fast, smooth, accurate results with no burning or checking.

SEND FOR CATALOG TODAY

27 SALES-SERVICE STORES

DoALL

INDUSTRY'S NEW TOOLS

GR1-R

For more details circle NED-9751 on enclosed inquiry slip

Fast, Uniform Drying On Jobs Like These

OFTEN DIELECTRIC HEATING is the only solution to a drying problem requiring speed and uniformity. Here are some of the jobs you can do with versatile Allis-Chalmers dielectric heaters:

1. Core Drying
2. Twist setting
3. Sterilizing
4. Preheating plastics
5. Drying rayon fibers
6. Preheating linoleum
7. Heating rocket fuels
8. Drying gunpowder
9. Vulcanizing rubber
10. Creating chemical reaction
11. Woodgluing

Continuous conveyors can carry the material between the electrodes for drying. Space requirements are small. Drying takes only a few minutes.

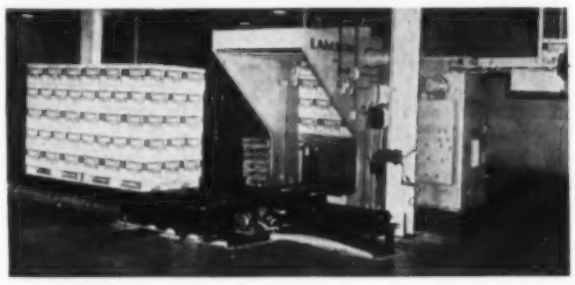
If you have a problem of this type, call your nearby Allis-Chalmers district office, or write Allis-Chalmers, Milwaukee 1, Wisconsin. A-3356

ALLIS-CHALMERS

For more details circle NED-9752 on enclosed inquiry slip

AUTOMATIC PALLET LOADER can store loaded pallets awaiting removal by truck

Up to six loaded pallets can be stored temporarily to await removal by fork truck with this right angle conveyor arrangement used with automatic pallet loader. Pallets are pushed off loader's discharge conveyor and



onto second conveyor at right angles to discharge. Automatic tripping mechanisms operate ram which pushes pallet onto storage conveyor. Arrangement not only accumulates pallets for truck while it is on long haul, but supplies backlog from which it can load when returning from short haul.

Pallet loader itself eliminates manual loading by conveying cartons and cases up to electro-mechanical devices which position and place them onto pallets in any desired arrangement. When more than one size container is in production, machine positions intermediate predetermined pallet lots so each is stacked properly on its pallet. Magazine within loader automatically supplies empty pallets as preceding loads are completed. Made by **Lamson Corp.**, 2000 Lamson St., Syracuse 1, N. Y.

For more details circle NED-9755 on enclosed inquiry slip

meeting

"Bugs"

in designing new equipment?

Fight them with LINDE Synthetic Sapphire!

Because of its low coefficient of friction, high melting point and hardness, and unusual chemical resistance, LINDE synthetic sapphire has paved the way for trouble-free, longer life of both small and large parts in many diverse processes.

A few of the many new equipment parts include: precision balls, sleeve bearings, rods, orifices.

Call or write any LINDE office for detailed information on how sapphire can be applied to your specific design problems. Write for your copy of the booklet, "LINDE Synthetic Crystals for Industry." Ask for Form 7560.

The term "Linde" is a trade-mark of Union Carbide and Carbon Corporation.

LINDE AIR PRODUCTS COMPANY
A DIVISION OF UNION CARBIDE AND CARBON CORPORATION
30 E. 42nd St., New York 17, N. Y. UCC Offices in Other Principal Cities
In Canada: DOMINION OXYGEN COMPANY, LIMITED, Toronto

For more details circle NED-9758 on enclosed inquiry slip

AIR EXPRESS

with SPENCER VACUUM

Industry has taken to the air to speed production. It's the air of powerful vacuum—Spencer Vacuum which is being used daily for more than 100 startling applications for conveying, recovery, waste disposal, automatic dust-free production and sanitation, particularly in the food, chemical and metal industries.

It is moving mountains of rice from freight cars, hot fly ash from pits and sand from the bowels of ships.

Spencer Vacuum is also speeding bench work, reducing dust conditions and cleaning the finished products. In food it's sanitation, vermin control and conveying. Ask for Bulletin No. 144.

THE SPENCER TURBINE COMPANY • HARTFORD 6, CONNECTICUT
SPENCER HARTFORD
439-E

For more details circle NED-9753 on enclosed inquiry slip

FREQUENCY COUNTER measures up to 10 million cycles per second automatically

Operation of model 524A frequency counter requires no special skill to measure low, medium and higher frequencies up to 10,000,000 cycles per second instantly. For determination of frequencies above 300 cycles per second, equipment counts and displays unknown directly on front panel. To obtain these readings it is only necessary to connect unknown to instrument. Front panel switch selects five counting periods of 10, 1, 1/10, 1/100 and 1/1000-second. Instrument counts frequency cycles occurring during time interval selected, then displays frequency for equal length of time. For low frequency work it measures period or duration of cycle in microseconds. As in direct frequency counting, measurements progress automatically through equal measuring and display periods or readings can be "held" on panel indicators. Made by **Hewlett-Packard Co.**, 399 Page Mill Rd., Palo Alto, Calif.

For more details circle NED-9756 on enclosed inquiry slip

"Nearest Thing to an Everlasting Floor!"

SAYS ONE FACTORY MANAGER*

Floors of EMERI-CRETE

made with CORTLAND EMERY AGGREGATE

End Floor Maintenance for Years

For use on new floors or resurfacing old ones, wherever floors take a beating or maintenance costs are a headache! Applies as easily as ordinary concrete and outwears it many times over. Resists the effects of practically every processing material as well as extreme heat and cold. Even, non-skid surface prevents accidents.

Records of hundreds of EMERI-CRETE FLOORS, made with CORTLAND EMERY AGGREGATE, show that they have all but eliminated maintenance costs. EMERI-CRETE, made with CORTLAND EMERY AGGREGATE, is 100% natural crushed emery, cement and water. It bonds to the underlying concrete slab to form a hard "armor plate" that is practically immune to wear—the world's toughest floor . . . and the cheapest, on a year-in, year-out basis.

*Name on request

• DON'T SPEND ANOTHER DOLLAR ON FLOOR MAINTENANCE UNTIL YOU HAVE THE FACTS ON EMERI-CRETE, made with CORTLAND EMERY AGGREGATE

WALTER MAGUIRE COMPANY, INC., DEPT. NED
60 E. 42nd Street, New York 17, N. Y.

☐ Please send detailed bulletin on EMERI-CRETE, made with CORTLAND EMERY AGGREGATE
☐ Have representative make floor survey.

NAME _____
COMPANY _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

For more details circle NED-9759 on enclosed inquiry slip

• CLIPS • CLAMPS • GROMMETS • OPEN & CLOSED TANKS • PRESSURE VESSELS • RACKS • HANDLING & DIPPING BASKETS • EXHAUST SYSTEMS • PIPE • SCREENS • DRUMS • UTENSILS •

CLIPS AND CLAMPS
We have tools for all standard sizes and weights and over 500 specials.

arco covers anything with rubber!

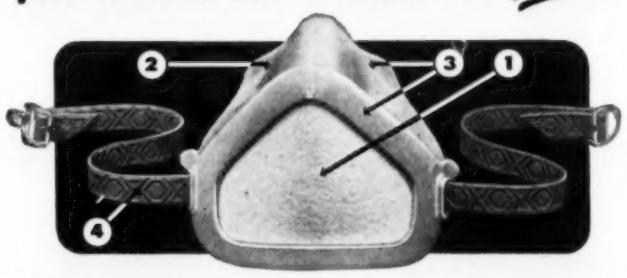
• Our special facilities include one of the largest vulcanizers in the industry. We have capacity for covering all shapes, sizes in any volume. Also molded and extruded rubber production parts.

Let our engineers help you solve your difficult problems.

AUTOMOTIVE RUBBER COMPANY, INC.
8601 EPWORTH BOULEVARD • DETROIT 4, MICHIGAN

For more details circle NED-9754 on enclosed inquiry slip

4 Reasons why FLEX-A-FOAM (and only FLEX-A-FOAM) provides Dust Protection your workers will welcome and Wear



1. Pure latex washable filter purifies the air of non-toxic nuisance dusts as small as 1/25000 of an inch — yet it's easier to breathe and talk through than an ordinary pocket handkerchief! Out-wears throw-away type filter as much as 100 to 1.
2. Perfectly contoured for self-adjusting fit to every size and shape of face—designed for wear with spectacles or goggles with perfect comfort.
3. Positive-locking frames of polyethelene plastic, so flexible and tough they're unbreakable in normal usage. Complete mask weighs only 1 ounce. Attractively styled to suit the most discriminating wearer.
4. Defiance non-skid, natural rubber head-band with adjustable hook-and-eye fasteners holds mask firm and comfortably snug without tension or hair-pulling.

FLEX-A-FOAM FILTER MASK

Sample $1.40 postpaid

★

Write for new descriptive folder

THE GOGGLE PARTS COMPANY • CLEVELAND 13, OHIO

For more details circle NED-9757 on enclosed inquiry slip

DO YOUR OWN TESTING

...tensile, compression, transverse or shear

DILLON
Universal Tester
saves
Time and Money

Average operator can make hundreds of tests *(Standard Model)* a day on spot welded specimens, riveted assemblies, plastic, wire, rubber, cloth, etc.

These portable testers easily handle flat, round or special shapes with extreme accuracy. Perfect for lab or shop. Manual or motorized. Will test materials with tensile strength as low as .25 pounds or as high as 125,000 pounds P. S. I.

Write today for free Tensile Strength Computer and illustrated folder with detailed information.

W. C. DILLON & CO., Inc.

1421-NE SOUTH CIRCLE AVENUE FOREST PARK, ILLINOIS

For more details circle NED-9760 on enclosed inquiry slip

- *Eliminate Porosity!*
- *Improve Physical Properties!*

If you use liners, sleeves, rings, rolls, bushings, etc., in bronze alloys —rough or machined— check with Non-Gran today. Request booklet.

American Non-Gran Bronze Co.
Berwyn, Pa.

NON-GRAN

For more details circle NED-9761 on enclosed inquiry slip

Quick, Thorough Cleaning!

General Electric Heavy-duty Vacuum Cleaners

In more and more plants, General Electric Heavy-duty Vacuum Cleaners are being used because they speed thorough cleaning of floors and above-the-floor areas.

These powerful cleaners also provide efficient portable dust control around machines, make gathering of small metal or other scrap easy. Wet pickup is also a feature of this model. Write for details.

MAIL TODAY

General Electric Company, Dept. 22-2627
1285 Boston Ave., Bridgeport 2, Connecticut
Send, without obligation, details about General Electric heavy-duty cleaning equipment.

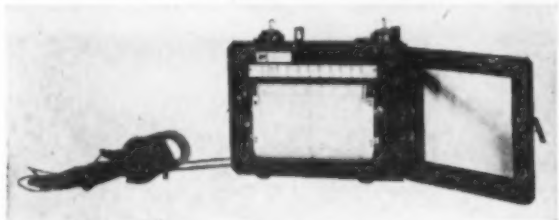
Name.....
Firm.....
Address.....
City..... State.....

GENERAL ELECTRIC

For more details circle NED-9762 on enclosed inquiry slip

CLAMP & RECORDING AMMETER measures and records alternating current without breaking circuit

Designed to check and make permanent record of use of alternating current and circuit reactions, Tag recording ammeter is used portably with Weston clamp-ammeter

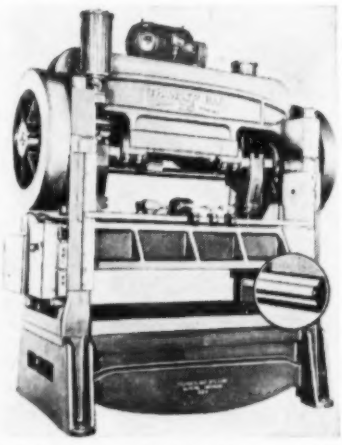


unit model 633, type AIR-A2R. Equipment measures and records without breaking circuit. Records obtained can reveal proper or improper handling of equipment, detect unwarranted use of power and discover unnecessary waste of production line time by checking equipment starting and stopping times.

Clamp unit can be used for making rapid measurements on either insulated or noninsulated conductors. Recording unit can be used with extension cable several hundred feet long. When used on commercial sine wave of frequencies between 50 and 70 cycles, instrument has accuracy within 3 per cent. For permanent installation, recording ammeter is used with Weston rectifier converter model 9921 and current transformer model 604 type 2. Made by **Weston Electrical Instrument Corp.**, Tagliabue Instruments Div., Dept. 414, 614 Frelinghuysen Ave., Newark 5, N. J.

For more details circle NED-9763 on enclosed inquiry slip

METALWORKING PRESS fluorescent lighting insures clear view of press bed at all times

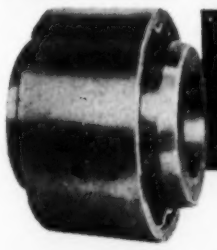


Designed to blank, draw, form and pierce sheet metal parts, Thunder Bay presses range in capacity from 125 to 400 tons. Line includes various bed sizes, shut heights and strokes to meet many production needs. Use of fluorescent lighting fixtures at each end of press bed affords sufficient illumination at all times, and is reported to minimize die breakage. Other features include bed drilled for die cushion installation, ram length equal to bed length, elimination of gib interference, and large gaps in columns for feeding coil stock from sides.

Rockford friction clutch and American Chain & Cable Tru-Stop disk brake are air-actuated and equipped with silencing mufflers. Controls provide for single-stroke non-repeat, continuous and inching operations. Motor mounts on top of bridge and drives to flywheel on countershaft through Veelos v-belts. Ampco bronze bearings and bushings are used. Made by **Thunder Bay Mfg. Corp.**, 225 Iron St., Detroit 7, Mich.

For more details circle NED-9764 on enclosed inquiry slip

SLASH DOWN-TIME



New Sier-Bath Flexible GEAR COUPLINGS

ONLY 7 PARTS

- **ASSEMBLED, UNCOUPLED** *in seconds!* Alignment checked in a fraction of usual time. Assembled by hand—uncoupled with a screw driver.
- **REDUCE PARTS PROBLEM.** No bolts, nuts, grids or discs to stock or replace. No special tools required.
- **REDUCE WEAR ON EQUIPMENT.** Cut coupling weight 50%, size 40%. Put less strain on shafts, bearings—cut breakdowns.
- **STRONGER, MORE DEPENDABLE.** One-piece smooth sleeve of forged steel carries the load—no bolts to shear.

WRITE FOR BULLETIN *and name of nearest Sier-Bath Representative!*

Bulletin gives installation photos, cost-cutting advantages, detailed plan drawings and specs for standard, vertical, mill motor and floating shaft types—sizes ⅞ to 6, HP 4 to 550. (Special sizes and types on request.)

Founded 1905 Member A. G. M. A.

Sier-Bath GEAR and PUMP CO., Inc.
9240 HUDSON BLVD., NORTH BERGEN, N. J.
Also Manufacturers of Precision Gears, and Screw and Gearex Rotary Pumps

For more details circle NED-9765 on enclosed inquiry slip

MARK—

BUSHINGS, COLLARS, RODS, DRILLS, HOUSINGS, TUBES, RINGS AND ANY ROUND, FLAT OR ODD SHAPED ITEM YOU CAN THINK OF WITH THE SERIES 9A MARKING MACHINES

HAND, MOTOR OR AIR DRIVEN
Write today for Literature & Prices

The ACROMARK Company
7-11 MORRELL ST., ELIZABETH 4, N. J.

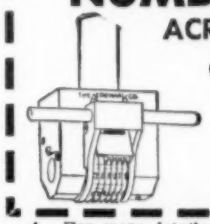
For more details circle NED-9766 on enclosed inquiry slip

STAMP—

NAME-PLATES, TAGS, MACHINE PARTS AND PLATES WITH THE
Acromarker Stamping Machine

"IT COMES IN SEVERAL STYLES & SIZES"

NUMBER— CONSECUTIVE, DUPLICATE AND REPEAT WITH—
ACROMARK NUMBERING HEADS



—Write for Literature & Prices

The ACROMARK Company
7-11 MORRELL ST., ELIZABETH 4, N. J.

For more details circle NED-9767 on enclosed inquiry slip

Kester Solder

Kester's famous group of flux-core solders consist of over 100,000 different types and sizes.

Uniform · Efficient

Kester Flux-Core Solders are made only from the finest grades of tin and lead commercially available.

KESTER SOLDER COMPANY
4201 Wrightwood Ave., Chicago 39
Newark, New Jersey
Brantford, Canada

Send for free manual: "SOLDER and Soldering Technique"

KESTER SOLDER

Standard for Industry since 1899

For more details circle NED-9768 on enclosed inquiry slip

New!
NOBODY BUT ARO
OFFERS YOU

A REVOLUTIONARY SCREW DRIVER AND NUT SETTER

ARO's new push-button valve means *instant reverse action*... no need to remove from work... no stopping to turn levers... no wasted time.

Adjustable clutch (available with positive clutch) Length 7-11/16"... outside diameter 1-5/16"... weight 1.4 lb.

This outstanding tool must be seen in action to appreciate its amazing action. Write for literature.

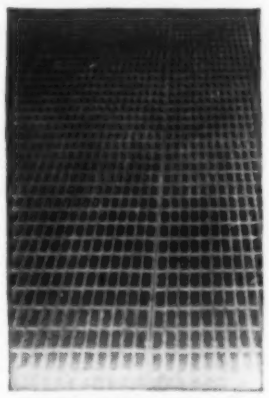
The Aro Equipment Corporation, Bryan, Ohio.
Aro Equipment of Canada, Ltd., Toronto

ARO AIR TOOLS Also... LUBRICATING EQUIPMENT... HYDRAULIC EQUIPMENT... AIRCRAFT PRODUCTS... GREASE FITTINGS

For more details circle NED-9769 on enclosed inquiry slip

FIRST EXAMINE . . . THEN SELECT THE GRATING WITH ALL

5 SUPERIOR FEATURES!



1. STRONG electroforged construction for easy installation.
2. MAXIMUM OPEN AREA for light and air.
3. EASY TO MAINTAIN . . . paint reaches entire surface.
4. SELF-CLEANING, no sharp corners to clog.
5. SAFE footing at all times with twisted cross bar.

Write for complete specifications

BLAW-KNOX DIVISION OF BLAW-KNOX COMPANY
2068 Farmers Bank Building
Pittsburgh 22, Pa.

BLAW-KNOX *Electroforged*® STEEL GRATING AND STAIR TREADS

▲ For more details circle NED-9770 on enclosed inquiry slip ▲

New di-acro POWERSHEAR

offers CONTINUOUS ACTION *plus* VARIABLE SPEED

from 30 to 200 strokes per minute

For high Speed

DIE-LESS DUPLICATING

The new Di-Acro POWERSHEAR has remarkable speed and accuracy for the production of small parts and pieces. Consider these points: 1. CONTINUOUS SHEARING ACTION — no clutch to engage! Feeding speed determines shearing speed. 2. VARIABLE SPEED — cutting cycle quickly set for each shearing operation. 3. EASE OF OPERATION — fatigue is reduced, accuracy increases, production soars. 4. "SINGLE STROKE" SHEARING — non-repeating safety clutch for jobs not adaptable to continuous shearing.

Any plant doing high speed precision work on smaller parts from any shearable material cannot afford to be without the DI-ACRO POWERSHEAR. Available in 12" and 24" shearing widths, capacity 16 gauge sheet steel. Also standard model.

SEND FOR 40 PAGE "DIE-LESS DUPLICATING" CATALOG giving full details on Di-Acro Powershears, also Di-Acro Benders, Brakes, Rod Parters, Rollers, Notchers and Punches.

DI-ACRO PRECISION MACHINES DIE-LESS DUPLICATING

O'NEIL-IRWIN
334 8th Ave.
Lake City, Minn.

▲ For more details circle NED-9771 on enclosed inquiry slip ▲

HOT PROBLEM? move it on a Simplicity conveyor

If you move hot, abrasive materials in your operations, you'll do it faster and more economically with either a Simplicity Os-A-Veyor (oscillating type conveyor) or a Model PT Positive Action Conveyor. Simplicitys are ruggedly built for tough duty. Simple power units and operating mechanism mean low maintenance costs and easy servicing. Model PT conveyors, built in lengths of 100', can be installed in multiples to meet any level-operation requirement. Os-A-Veyor types, available in lengths to 30' and 12" to 6' widths, will operate on an incline depending on product being handled. Simplicity conveyors give positive rate of feed control and handle all kinds of material, regardless of temperature and abrasive characteristics, without damage. Write, wire, or phone . . . today.

92

Simplicity
ENGINEERING CO., DURAND, MICH.

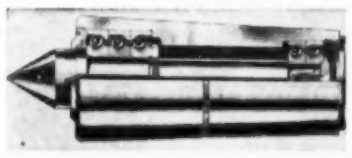
▲ For more details circle NED-9772 on enclosed inquiry slip ▲

HIGH INTENSITY LAMP operates on various power sources

With components smaller in size than previous units, this water-jacket-cooled mercury arc lamp is available in three sizes with arc widths of 1, 1¼ and 1½ mm. Applications include high speed and stroboscopic photography, optical apparatus, photosynthesis and photochemical processes. Approximate power inputs range between 1 and 2 kw. Brilliance is from 40,000 to 90,000 candles per square centimeter and light outputs are from 65,000 to 130,000 lumens. They operate from alternating or direct current, single flash or stroboscopic power supplies. All quartz accessories are available when powerful ultraviolet source is required. Made by **Huggins Laboratories,** 710 Hamilton Ave., Menlo Park, Calif.

▲ For more details circle NED-9773 on enclosed inquiry slip ▲

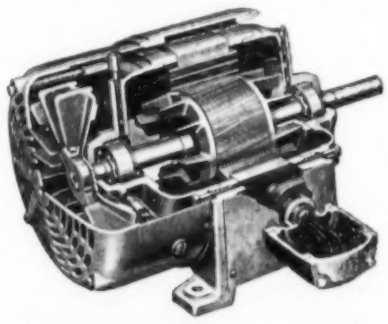
LATHE CENTER is built-in type with no overhang



Built-in type Red-E antifriction centers eliminate overhang and permit full clearance as well as maximum distance between centers. They are assembled with precision angular contact and preloaded antifriction ball bearings mounted for maximum radial and thrust load capacity. Labyrinth seal retains and preserves lubricant while shutting out dust, chips and coolants. Centers can be used as replacements for built-in type live spindle. Made by **Ready Tool Co.,** 554-D Iranistan Ave., Bridgeport 5, Conn.

▲ For more details circle NED-9774 on enclosed inquiry slip ▲

EXPLOSIONPROOF MOTOR offered in 3 to 75-hp models



Protection against external hazards and entrance of abrasives, acids, moisture and other substances is provided in this totally enclosed motor for use where explosionproof 3 to 75-hp models are required. Type SE and SES motors bear Underwriters' Laboratories label in class I group D for highly inflammable gases and volatile liquids, and class II, groups F and G for combustible dusts. Types SD and SS without label for nonexplosionproof service are also available. Features include sealed terminal, elongated spark-arresting bearing sleeves, Hi-Draft ventilation, asbestos protected windings and Centricast rotor. Made by **U. S. Electrical Motors, Inc.,** Dept. NED, 200 E. Slauson Ave., Los Angeles 54, Calif.

▲ For more details circle NED-9775 on enclosed inquiry slip ▲

100% CONCENTRICITY AND HARDNESS TESTS ASSURE ACCURACY— SUPERFINISH BORES ASSURE LONG LIFE OF UNIVERSAL DRILL BUSHINGS

153-A

UNIVERSAL ENGINEERING COMPANY
FRANKENMUTH 5, MICHIGAN

▲ For more details circle NED-9776 on enclosed inquiry slip ▲

DOWNS SAFETY GRABS ...GRIP ANYTHING!

FOR CRANES AND HOISTS...

Material lifting equipment will do more work—faster, easier—when you have the proper "grabs" for every type of load. No matter what your hoists are handling—pipe, rails, drums, plate or structural steel, stone, timber, boxes or odd-shaped objects of any description—there's a DOWNS *Safety* Grab that will enable you to do it faster, easier *and* safer. Learn new short cuts to greater efficiency for YOUR plant with DOWNS' *complete line* of *Safety* hoist grabs!

Write for Free Illustrated Catalog 200 Today!

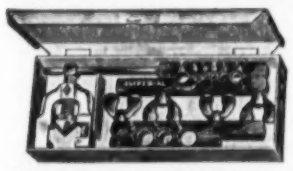
DOWNS CRANE & HOIST CO.
MECHANICAL ENGINEERS
540 W. VERNON AVENUE • LOS ANGELES 37, CALIF.

▲ For more details circle NED-9777 on enclosed inquiry slip ▲

WE'LL SEND YOU THIS WHOLESALE CATALOG FREE!

60% SAVINGS ON SOME ITEMS

OVER 9,000 ITEMS including



Wide Range FLARING Tool

Flares 9 different sizes. One bar flares 1/8", 3/16", 1/4", 5/16", 3/8" and 7/16" OD sizes and the second bar flares 1/2", 5/8" and 3/4". Yoke has "slip on" feature with the inside edges notched to hold in place. Self centering No. 13564B. Complete Wide Range Flaring Tool for 9 different sizes, in metal case.

- ELECTRIC MOTOR PARTS
- REFRIGERANTS & FITTINGS
- DEEP FREEZER SUPPLIES
- DEHYDRATORS
- COPPER TUBING
- VALVES
- CONTROLS
- HIGH SIDES
- GAUGES
- TOOLS

WRITE TODAY TO

THE HARRY ALTER CO.
1726 S. MICHIGAN AVE., CHICAGO 16
132 LAFAYETTE ST., NEW YORK 13

▲ For more details circle NED-9778 on enclosed inquiry slip ▲

for easier MATERIALS HANDLING

STRONG!
TOUGH !!
LIGHT !!!

TRUCKS & TOTE BOXES

You can't get more wear or longer life from any other type of tote-box or truck, than you get *built right in* these lightweight, vulcanized and reinforced

BAL PLASTIC FIBRE PRODUCTS

So light that girls can handle them loaded with lightweight parts; sturdy enough to carry heavy parts and defy constant usage and drudgery. Double-strength corners; steel "elbows" to word off damage. Hard smooth surfaces with no rough edges. Made in all sizes. Catalog shows many types of trucks; tote-boxes for many industrial needs. *Send for details!*

"BAL" BUILT WITH A CONSCIENCE

WILLIAM BAL CORPORATION
11 Johnson Street, Newark 5, N. J.

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A simple change in our MIKRO-PULVERIZER has produced outstanding results, especially in the handling of heat-sensitive materials.

Altho this project is still in the development stage, we know that on some materials it means . . .

25% reduction in temperature rise
25% reduction in H.P. consumption
OR—in lieu of H.P. savings—
a 30-50% increase in production

Right now, you can help yourself by letting us try this new grinding method on *your own material* in the MIKRO Laboratory. Test will cost you nothing, but it may solve your problem.

INVESTIGATE this opportunity today.

PULVERIZING MACHINERY COMPANY
28 Chatham Road Summit, New Jersey

PRESERVE OUR HERITAGE FAITH, FREEDOM AND INCENTIVE

MIKRO-PULVERIZER FINE
MIKRO-ATOMIZER ULTRA FINE
REG. U.S. PAT. OFF.
Also Makers of the MIKRO-COLLECTOR

For more details circle NED-9780 on enclosed inquiry slip

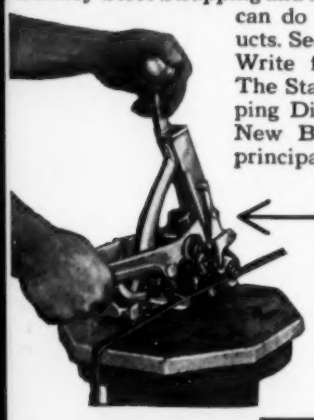
NOW GRINNELL moves valves four times faster

with STANLEY Steel Strapping

At its Cranston, R. I. plant, Grinnell Co., Inc. found that by strapping four valves to a skid with Stanley Steel Strapping, truckers could handle four valves in the same time that it formerly took to handle one.

Trucks that previously carried valves one-at-a-time now carried four valves — *three riding free.* And in addition, Grinnell got a better, easier to handle shipping unit. Valves strapped to a skid could be stacked higher — saving critical storage space.

And this is just another typical example of what Stanley Steel Strapping and modern shipping methods can do for hard-to-handle products. See how it can save for you. Write for full information to: The Stanley Works, Steel Strapping Division, 209 Lake Street, New Britain, Conn. Offices in principal cities.



Improved ACE Strapping Tool.
Fast, rugged and easy to operate. Spring feed magazine holds 100 seals. Operates in any position. Three sizes — for ⅜", ½" and ⅝" strapping.

STEEL STRAPPING AND CAR BANDING ACCESSORIES

STANLEY
Reg. U.S. Pat. Off.

HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL

For more details circle NED-9781 on enclosed inquiry slip

LABORATORY BATH for viscosity, density measurements

Constancy of bath temperature claimed for Isotemp Bath is plus or minus 0.005° C over entire range of about −5 to plus 107° C for laboratory work in making viscosity or density measurements. Electronic circuit controls one 400 and one 800-w heater. Heating elements, stirrer and controls are contained in central column with all connections made through bottom of 15 x 15-in. Pyrex glass bath. Stirring is by 1150-rpm motor and propellers so that entire 10-gallon water or light mineral oil content is constantly in motion. Bath is housed in cube-shaped case with front opening for observation. Back portion and bottom are illuminated from below. Accessory cooling coil permits bath temperatures below that of room. Made by **Fisher Scientific Co.,** 715 Forbes St., Pittsburgh 19, Pa.

For more details circle NED-9782 on enclosed inquiry slip

LIGHTING FIXTURE reflector removable for maintenance

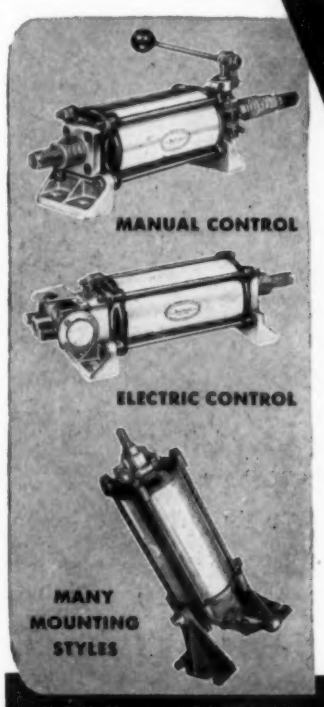
Easy removal and quick maintenance is facilitated with Turnlox lighting equipment which permits removal of reflector and lamp as one unit from hood containing wiring terminal base. A three-point bayonet coupling between hood and reflector is key to lamp's design. Slight upward pressure on reflector rim and a quarter turn to right releases the unit. Hoods have easily-wired porcelain terminal bases which fit any medium or mogul base assembly. Heavy-duty, porcelain enameled steel reflectors are available. Lampholder assemblies include keyless rigid, pull chain—shock-absorbing and self-locking types. Made by **Benjamin Electric Mfg. Co.,** Dept. W, Seegers Rd. & Northwest Highway, Des Plaines, Ill.

For more details circle NED-9783 on enclosed inquiry slip

DO YOU KNOW? Aid to designers and users of hydraulic and pneumatic mechanisms is offered in form of "O-Ring Data Sheets." To obtain free expert advice, O-ring user fills in details of conditions under which ring operates and other pertinent data on one of these sheets. Problem will be reviewed by O-ring engineers, and recommendations will be returned promptly. Service and data sheets are offered by Arrowhead Rubber Co., Downey, Calif.

For more details circle NED-9784 on enclosed inquiry slip

NO EXTRA VALVES TO BUY



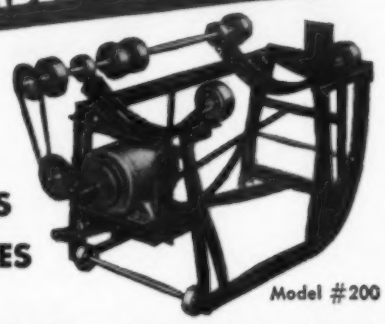
BELLOWS Air Motors are complete air cylinder power units. Valve, valve operating controls and speed controls are built-in. No extra valves to buy. Only one air connection required. Available with either manually-controlled air valve or electrically-controlled air powered air valve. Five bore sizes: 1¼", 1¾", 2¼", 3⅝", 4½". Any stroke length.

• *Write for Bulletin BM 30 Dept. NED-1251.*

The Bellows Co.
AKRON 9, OHIO

For more details circle NED-9785 on enclosed inquiry slip

MORSE PORTABLE ROTATOR



• MIXES
• CLEANS
• TUMBLES

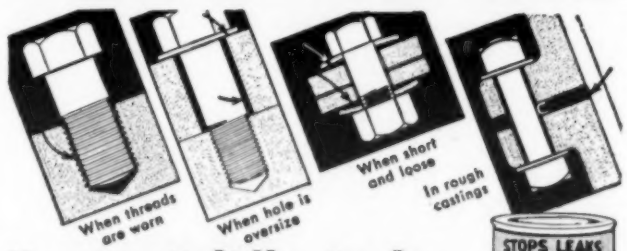
Model #200

A retractable caster frame offers simpler handling of containers with the Morse Rotator. Two Neoprene Drive Wheels prevent creeping. Four drive wheels give positive driving action and two idler wheels with Torrington Needle Bearings make the Morse Rotator a smoothly operating unit. Tipping lever included with each Rotator. Write for free folder showing complete Morse line.

Less motor and drive—Wt. 75 lbs. $147.75
Complete with motor—Wt. 155 lbs. $228.25

MORSE MANUFACTURING CO., INC.
127 Dickerson Street Syracuse 2, N. Y.

For more details circle NED-9786 on enclosed inquiry slip



How to Solidly Anchor LOOSE BOLTS

Bolts with worn threads—undersize bolts in oversize holes—bolts passing through thin walls—bolts holding ill-fitting cast flanges—all can be tightened firmly with quick-setting Smooth-On No. 1 Iron Cement. Use it, too, to lock nuts tight, and to cover and protect countersunk bolt heads in metal or wood. These repairs stay tight because Smooth-On expands slightly as it hardens. Buy Smooth-On No. 1 in 7 oz., 1 lb., 5 lb., 20 lb., or 100 lb. size and keep it handy. If your supply house hasn't Smooth-On, write us.

FREE REPAIR HANDBOOK

40 Pages filled with time-saving, money-saving repairs on plant, shop and home equipment made with No. 1 and other Smooth-On Cements. Drop us a line for YOUR free copy.

SMOOTH-ON MFG. CO., Dept. 10
570 Communipaw Ave., Jersey City 4, N. J.

Do it with **SMOOTH-ON**
THE IRON REPAIR CEMENT OF MANY USES

For more details circle NED-9787 on enclosed inquiry slip

VEMCO DRAFTING MACHINES

Designed by Engineers for Engineers

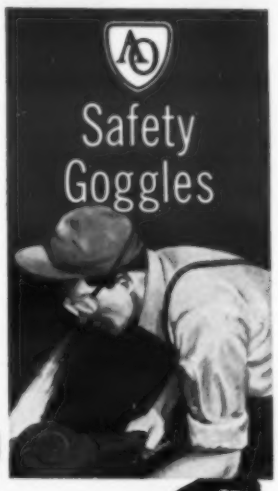
1. *Convenient thumb-action indexing for every 15°.*
2. *Simple and positive band tightening device.*
3. *Flexibly articulated arms for easy head movement and flat-lying scales.*

THE engineers responsible for the design of VEMCO Drafting Machines are thoroughly familiar with drafting problems. VEMCO Machines incorporate ALL the facilities desired by the engineer to fill his exacting needs ★ The VEMCO offers smooth, effortless movement . . . positive setting and control for speed and accuracy. flexibility for convenient operation. . elimination of an awkward assortment of drafting tools . sturdy construction for durability. ★ VEMCO Drafting Machines are finished in blue-green metallic color for eye comfort. ★ Ask your VEMCO dealer for a demonstration or write today for illustrated catalog covering drafting machines and drawing instruments.

V&E MANUFACTURING CO.
PASADENA 2, CALIFORNIA

For more details circle NED-9788 on enclosed inquiry slip

Both "PANORAMS" give BIG VALUE for Your EYE PROTECTION MONEY!



Model numbers and sizes differ (AO 600 for medium and larger faces—AO 800 for smaller faces) but you'll find the same superb wide angle vision, lightweight comfort and conformance to high safety and optical standards in both of these plastic goggles. Worn directly over the eyes or personal glasses, they protect against flying particles from any direction. For chipping, grinding, babbitting, cutting rivets or rails, riveting, spike driving, spot welding. Your nearest AO Safety Products Representative can supply you.

American Optical COMPANY SAFETY PRODUCTS DIVISION

Southbridge, Massachusetts • Branches in Principal Cities

For more details circle NED-9789 on enclosed inquiry slip

EMERGENCY LIGHTING UNIT
electric line keeps battery charged

One or two 25-w sealed beam floodlights of Exide Lightguard emergency lighting unit use power furnished by thick-plate glass jar storage battery. Magnetic switch automatically connects floodlights to battery when normal current is interrupted. When not in use, battery of unit is automatically kept fully charged from regular electric circuit into which it is always plugged. Lamps will illuminate 4000 sq ft of floor space and can be adjusted in any direction. Single lamp operates up to 6 hr, while two-lamp unit operates up to 2¼ hr with light output at about 70 per cent of peak. Toggle switch turns off lamps when not needed, but lights red neon light. Made by **Electric Storage Battery Co.**, Nineteenth St. & Allegheny Ave., Philadelphia, Pa.

For more details circle NED-9792 on enclosed inquiry slip

INDUSTRIAL HOSE
is oil and abrasion resistant

Applicable to air, welding gas, cold or hot water, paint or oil spraying, grease and gasoline service, Abrasoflex oil and abrasion resisting hose has smooth bore that permits fast flow, even when reeled. It is available with one or two-braid reinforced rayon black cover in seven sizes from 3/16 to 1 in. ID, suitable for 250 psi. Made by **Mercer Rubber Corp.**, 68 Reade St., New York 7, N. Y.

For more details circle NED-9793 on enclosed inquiry slip

SHEET METAL SAW
also cuts plastic and wood

Capable of cutting 50 or more stacked sheets of galvanized metal at speeds up to 15 ipm, this sheet metal saw can also be used for production work in metal, plastic and woodworking shops. Chain drive eliminates blade chatter and allows full power at slow speeds for cutting of iron and steel castings, forgings and other parts. Speed range is from 125 to 2200 fpm. Blades up to ½-in. wide can be used. Depth of cut is 8¾ in. and table size is 20 x 22 in. Depth and height of saw is 34 in. Made by **Bett-Marr Mfg. Co.**, 621-A Excelsior Ave., Hopkins, Minn.

For more details circle NED-9794 on enclosed inquiry slip

SAVE TIME AND LABOR... ADDRESS SHIPMENTS FAST, ACCURATELY!

"Saves $600 a year in shipping room," say users of Marsh Stencil Machines, Brushes, Inks! Electric and Hand Operated machines cut ½", ¾", 1" letters. Cut regular address stencils in half a minute, stencil mark a shipment in three seconds. Use for any type or size shipment. For sample stencil, Shipper's Handbook, prices, pin this to business letterhead with your name.

MARSH STENCIL MACHINE COMPANY
23 MARSH BLDG., BELLEVILLE, ILL., U. S. A.

MARSH STENCIL MARKING

For more details circle NED-9790 on enclosed inquiry slip

ONE MAN DOES THE WORK OF TEN with HYPRESSURE Jenny STEAM CLEANER

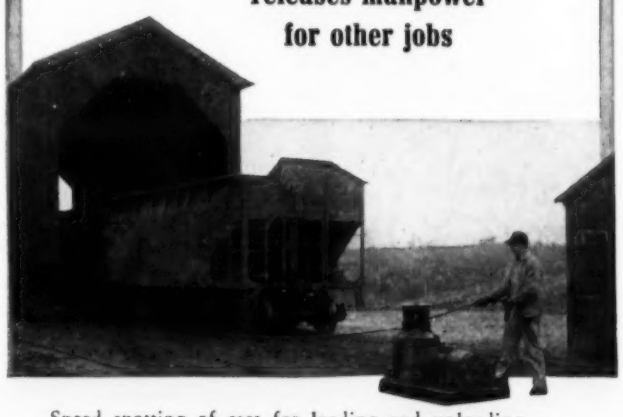
You can keep your plant and equipment spic and span for one tenth the cost of cleaning by hand! In a single hour, one man, using Hypressure Jenny, can do more cleaning and sanitizing than ten men can accomplish by hand methods. Not only does Jenny do a faster and better job of plant housekeeping, but by stripping grease and dirt from machinery before repairs, machine "down-time" is cut by as much as 40%. It will pay you to get full facts about how *you* can reduce *your* cleaning costs by 90%. Write today. There is no obligation.

Distributors in all parts of the world. For local representative see Classified Telephone Directory.

HYPRESSURE JENNY DIVISION
HOMESTEAD VALVE MANUFACTURING CO.
Serving since 1892
P. O. BOX 84 CORAOPOLIS, PA.

For more details circle NED-9791 on enclosed inquiry slip

Link-Belt CAR SPOTTER
releases manpower for other jobs



Speed spotting of cars for loading and unloading . . . reduce switching and demurrage costs to a minimum. One man with two or three turns of rope around the motor-driven capstan controls movement of up to six railroad cars. Stationary or portable. Integral or separate 5 or 10 hp motors develop 5,000 and 10,000 lb. rope pull.

Link-Belt offers a complete line of car spotters . . . also specializes in drum type puller applications.

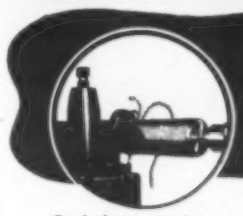
12,368

WRITE TODAY
For 16 Page Bulletin 1992-A

LINK-BELT COMPANY:
Chicago 8, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8, Springs (South Africa). Offices, Factory Branch Stores and Distributors in Principal cities.

For more details circle NED-9795 on enclosed inquiry slip

Increase YOUR HOURLY OUTPUT!



On Lathes and other machines using centers, CMD LUBRICANTS prevent dangerous seizure, waste and costly delays.

On Die Set Pins and Bushings CMD LUBRICANTS minimize wear and time-out to re-lubricate.

On Steady-Rests CMD LUBRICANTS assure smooth, true turning of work and complete freedom from scoring and seizure.

Lubricate Machines with Longer-Lasting
CMD *Anti-Scoring* LUBRICANTS

For smooth performance and greater man-hour production, protect your machines with CMD Anti-Scoring Lubricants. Because they withstand pressures greater than 50,000 pounds per square inch and will not mulsify with liquid coolants, they protect bearing surfaces better and longer. Illustrated here are just a few of the many applications where CMD Lubricants are cutting costs. But see for yourself. Test CMD Lubricants on your toughest operations.

Write for FREE Samples! Address Dept. 12-NED

CHICAGO MANUFACTURING & DISTRIBUTING CO.
1928 W. 46th St. • Chicago 9, Ill.

For more details circle NED-9796 on enclosed inquiry slip

FORD uses Kodak Contour Projectors to standardize inspection

This inspector at Ford is checking starting motor laminations with the Kodak Contour Projector, Model II. With dimensional variations in the order of .0001" seen greatly magnified, wear of dies is easy to locate.

When a precision part is produced by the hundreds of thousands, often in widely separated plants, inspection becomes a problem—not only in holding tolerances involved, but in making sure that every inspector is measuring the same dimensions in the same way. At the Ford Motor Co., the Kodak Contour Projector, Model II, affords an ideal solution.

With the Kodak Contour Projector, the operator simply compares an enlarged image with a tolerance chart laid on the bright 14" screen. One chart and an appropriate fixture for holding work are all that's needed for *complete* inspection. A number of different operators, using several instruments, will inspect parts to identical specifications.

What's more, fixtures and charts are easily changed to inspect all sorts of precision parts, whether large or small, at magnifications up to 100×. Accessories are available for examination of surface details or deep recesses, and for projection by a vertical light beam.

Fast, accurate, and requiring little skill to operate, the Kodak Contour Projector may well be the answer to your inspection or measurement problem. It will pay you to investigate. For complete information, write to Eastman Kodak Company, Industrial Optical Sales Division, Rochester 4, N. Y.

the KODAK CONTOUR PROJECTOR

If you need to test precision spur and helical gears in action, write for information about Kodak Conju-Gage instrumentation.

Kodak TRADE-MARK

For more details circle NED-9797 on enclosed inquiry slip

PIPE AND BOLT THREADERS

New Line! 4 Models! 4 Choices!

No. 782 PIPE THREADER
Stationary Die-Head
PIPE range ¼" to 2"
BOLT range ¼" to 1½"

No. 782-R PIPE THREADER
Revolving Die-Head
(Manually Operated) and Open-Type Vise Same range as No. 782 model.

No. 781-A BOLT THREADER
Automatic Revolving Die-Head
and Open-Type Vise
BOLT range ¼" to 1½"
PIPE range ¼" to 1¼"

No. 782-A BOLT THREADER
Automatic Revolving Die-Head
and Open-Type Vise
BOLT range ¼" to 1½"
PIPE range ¼" to 2"

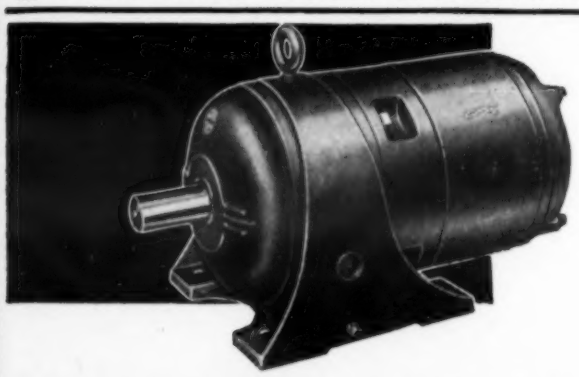
The "RAPIDUCTION JR." Line

Basic features of these machines are the same. They differ chiefly in the type of Die-Heads and Work Holders.

Each "RAPIDUCTION JR." model is designed for a PRIMARY purpose. When YOUR exact needs are known, it's EASY to select the BEST machine to fit the job. Write us for complete details.

OSTER — THE OSTER MFG. COMPANY
2066 E. 61st St., Cleveland 3, Ohio, U.S.A.

▲ For more details circle NED-9798 on enclosed inquiry slip ▲



FOOTE BROS.-LOUIS ALLIS *Gearmotors*

Write for Bulletin GMA

PROMPT DELIVERY! You can count on prompt delivery of Foote Bros.-Louis Allis Gearmotors—the finest Gearmotor obtainable. Superior in design and construction. Available in single, double, and triple reductions to provide output speeds from 780 down to 7.5 r.p.m. Capacities from 1 horsepower through 150 h.p. Available with open, drip-proof, splash-proof, enclosed and explosion-proof motors.

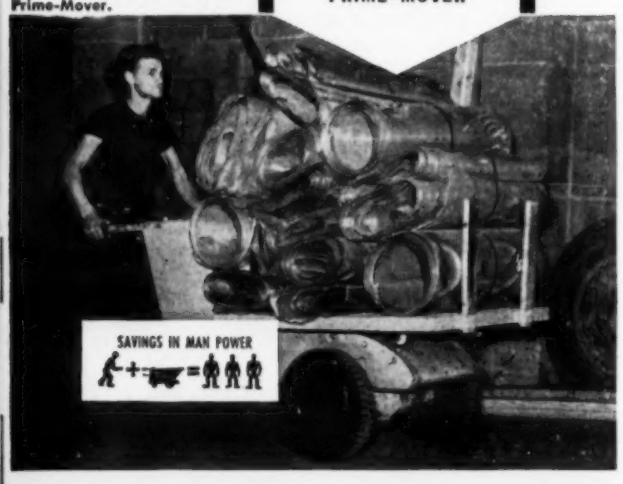
FOOTE BROS. GEAR AND MACHINE CORPORATION
Dept. NE, 4545 S. Western Blvd. • Chicago 9, Illinois

FOOTE BROS.
Better Power Transmission Through Better Gears

▲ For more details circle NED-9799 on enclosed inquiry slip ▲

This load of metal coils is an example of the many bulk handling jobs around a plant that can be done easier, faster and at less cost by one man and a Prime-Mover.

THIS IS ONE PLACE IN YOUR PLANT FOR PRIME-MOVER



Fills a real need in bulk handling!

Wherever there is scrap, cuttings, filings, and other clean up jobs, Prime-Mover has the capacity and power to save the time of at least three men. Dependable 5 H. P. Wisconsin engine provides ample power, forward and reverse, to take 20% grades easily, with 1500 pound load. For name of distributor and complete data, write to us.

THE PRIME-MOVER COMPANY
MUSCATINE, IOWA

THE Bell PRIME-MOVER

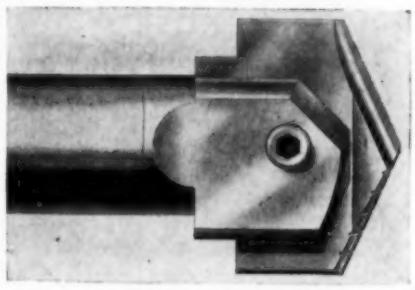
▲ For more details circle NED-9800 on enclosed inquiry slip ▲

CENTRIFUGAL CLUTCH
operates on wedge principle

Part breakage and loss of clutching action are minimized in small-size Moe-Re-Set centrifgual clutch which operates on wedge principle. Wedges work on slope from shaft to outside edge, literally welding free - running part of clutch to outer face. Springs which allow resetting to wide range of horsepower are separate from clutching action so that if they break or lose their temper, the clutching action cannot be lost. Clutch is available in indexing type for intermittent operation and in constant speed type in sizes from ¾ to 15 hp. Made by **Swan Clutch & Equipment Co.,** 1125 S. Twelfth St., Milwaukee 1, Wis.

▲ For more details circle NED-9801 on enclosed inquiry slip ▲

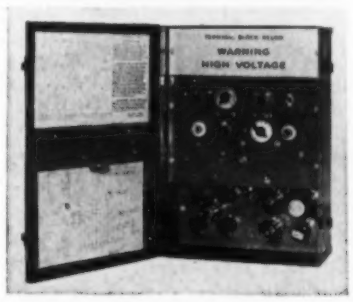
SPADE & CORE DRILLS
and holders are interchangeable



Both spade and core high speed drills are available in 256 stock sizes ranging from 1 to 5-in. diameters, in increments of 1/64 in. Using regular shop equipment, standard spade drills will bore the required diameter in one operation without retracting for clearance of chips. For production drilling and deeper holes, oil-hole holders are available. All holders accommodate core drills of both high speed steel and tungsten carbide tipped type. Made by **Conner Tool & Cutter Co.,** 1000 E. McNichols Rd., Detroit 3, Mich.

▲ For more details circle NED-9802 on enclosed inquiry slip ▲

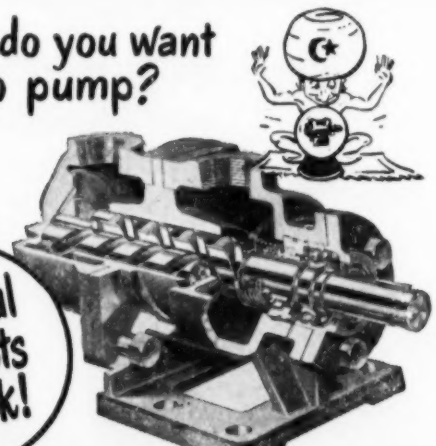
OVERLOAD PROTECTION DEVICE
adaptable to two machines



Simultaneous protection of two machines when one is feeding to other is provided by Dual Channel Protectron. This electronic instrument senses slightest mechanical overload in either machine, whether it be from pile-ups, misfeeds, tool dullness, overhard or oversized stock or other cause. It instantly stops both machines and conveyor feeding them before damage results. In addition to preventing tool and die breakage, device increases machine output by monitoring automatic machines through lunch hours, during stock replacement and other shutdown periods. Made by **Brinnell Co.,** Simsbury, Conn.

▲ For more details circle NED-9803 on enclosed inquiry slip ▲

What do you want to pump?



De Laval products at work!

Molasses, Glue, Lard, Soya Oil, Film Dope, Corn Syrup, Vegetable Oil, Paste, Fuel Oil, Shortening, Resin, Varnish, Linseed Oil, Viscose Rayon, Liquid Latex . . .

We frankly don't know all the other products that an IMO can pump, but if you want a better way to transfer fluids like these from one place to another, chance are an IMO can do the job for you. The IMO is a screw-type rotary pump. Its axial flow design permits liquids to be pumped close to the axis of the rotor. This means low liquid velocity through the pump and quiet pulsation-free flow. Capacities range to 1000 gpm at 500 psi and 150 gpm at 1500 psi.

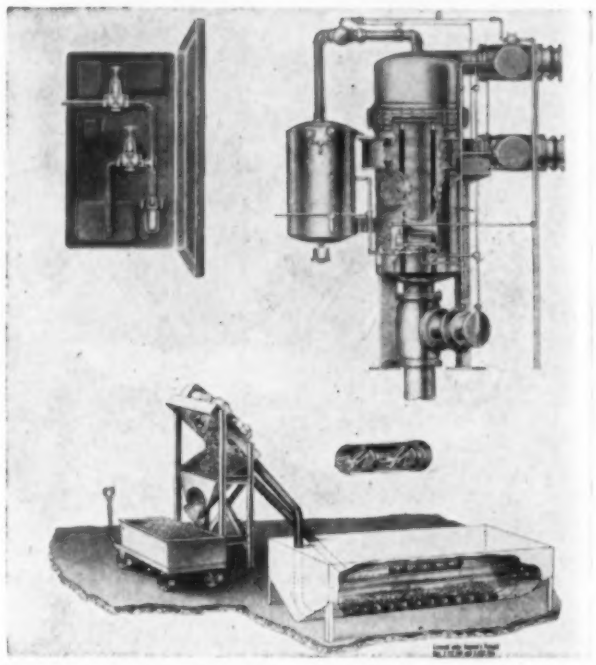
DE LAVAL STEAM TURBINE CO., TRENTON 2, N. J.
TURBINES • HELICAL GEARS • CENTRIFUGAL BLOWERS AND COMPRESSORS
CENTRIFUGAL PUMPS • WORM GEAR SPEED REDUCERS • IMO OIL PUMPS

50th DE LAVAL Anniversary

69

▲ For more details circle NED-9804 on enclosed inquiry slip ▲

AUTOMATIC COOLANT CLARIFIER FOR
increases tool life, improve



Newly designed Houdaille Automatic Clarifier System, which removes abrasives and other solid contaminants from machine tool coolants—transports waste to a disposal

▲ For more details circle NED-

Mathews Rollr

"ENGINERED

● One of the conveying equip Mathews conve

The complete Mathews buil following

CHAIN CONVEYERS • LIVE ROLLER CONVEYERS • WHEEL
BELT CONVEYERS • TROLLEY CONVEYERS • ROLL SPIRA
SPECIAL CONVEYI MACH

MATHEW
GENERAL
MATHEWS CONVEYER COMPANY
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MATHEWS CONVEYER COMPANY LTD.

Engineering Offices or Sales Agencies in Principal

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THERE'S

UNI

WORK-O-

Cuts materials handling costs, boosts production the usual ...p-type ...ing and ...ing of Work-O-...tic does ...type can ...

Used ... a hy... truck, it ...ws auto... cal remov... of parts and locat... wanted ...leased for ...ore sk...

Non-productive ... more. Use ... with U... cially designed po...

Work-O-Matic box in multi-duty service with lift truck and positioning stand.

UNION
Material Ha

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...ARGE CENTRAL SYSTEMS
...product finish, cuts rejects

point—and cleans its own filtering screens in automatically timed cycles, is announced by the Honan-Crane Corporation, Lebanon, Indiana.

Equipment, which removes particles as small as 5 to 10 microns, consists of multiple-screen clarifier (upper right), blowdown tank with conveyor (below), and an automatic control panel (upper left). Contamination, removed from clarifier screens by blowdown action, settles in V-bottomed tank and is automatically removed to disposal point by a tube-enclosed Houdaille chain conveyor built into the tank. Liquid from blowdown tank is returned to clarifier so that little or none is lost.

System is specifically designed for plant operations involving large numbers of cutting and grinding tools served by a central coolant system, and may be used for clarification of mineral oil or soluble oil coolants. By keeping coolant free from abrasives and contamination, the Houdaille Automatic Clarifier System increases tool life, provides better product finish with fewer rejects, and extends coolant life substantially. Eliminates need for individual coolant pumps and motors on machine tools. Eliminates labor required to clean individual sumps and lines.

Houdaille Automatic Clarifier Systems are built to provide flow rates up to 1000 GPM; the installation of several units in a central system allows an unlimited volume of liquid to be handled. Made by **Honan-Crane Corp.**, subsidiary of **Houdaille-Hershey Corp.**, 405 Wabash Ave., Lebanon, Indiana. **Advt.**

...on enclosed inquiry slip ▲

...r Conveyors

"...ENGINEERED TO SERVE PRODUCTION"

...One of the many widely applied types of ...eying equipment designed and built by ...ews Conveyer Company.

...he complete line of Mathews designed— ...hews built Conveyers includes the ...wing:

...ERS • WHEEL CONVEYERS • ELEVATING CONVEYERS
... ROL... SPIRAL CONVEYERS • PORTABLE CONVEYERS
...ONVEYI... MACHINERY

...W... CONVEYERS
...NERAL OFFICES
...MPAN... . . . . ELLWOOD CITY, PENNSYLVANIA
PAC...C COAST DIVISION
...MPAN... EST COAST . . SAN CARLOS, CALIFORNIA
C...ADIAN DIVISION
...MPAN... TD. . . . . . PORT HOPE, ONTARIO
...es in ...incipal American and Canadian Cities

...e NED-... on enclosed inquiry slip ▲

...HE...E'S NOTHING LIKE IT!

...UNION METAL'S *NEW*
...ORK...O-MATIC MULTI-DUTY BOX

...uts mat...ials handling costs... ...oosts pr...uction! In addition to ...e usual ...np-type box jobs—mov...g and ...ing of unit loads—the ...ork-O-...tic does jobs no other ...pe can ...

...Used w... a hydraulic fork lift ...uck, it a...ws automatic, mechani...l remov... of parts at exact height ...d locat... wanted. Labor is re...ased fo... more skilled work.

...on-pro...ctive time cut even ...ore. Us... with Union Metal's spe...ally des...ned positioning stand, the Work-O-Matic automatically discharges parts into a work-level "reservoir" tray. Operator and machine receive a *continuing* materials supply. No waiting . . . no manual handling . . . no lost motion.

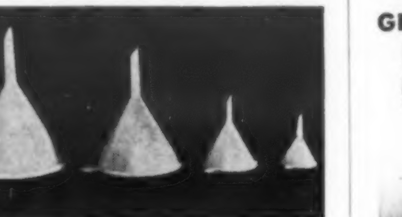
Non-productive time is slashed! And, production increases in many operations can amount to thousands of dollars daily.

Get full details about the Work-O-Matic Multi-Duty Box. Write for folder MH-808. The Union Metal Manufacturing Co., Canton 5, Ohio.

...NI...ON METAL
...rial Handling Equipment

...le NED-... on enclosed inquiry slip ▲

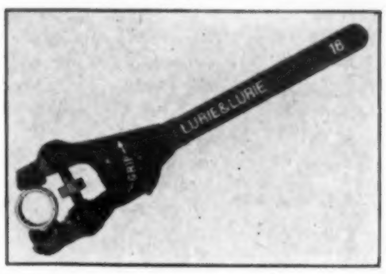
LABORATORY FUNNELS
are acidproof and unbreakable



Extremely light in weight, Agilene polyethylene funnels and beakers for industrial and laboratory application are unbreakable and resistant to such corrosive chemicals as hydrofluoric, sulphuric, nitric and hydrochloric acids at 170° F temperatures. Funnels are available in sizes from 1 to 12-in. diameters and cover operations ranging from micro-chemical work to transfer of corrosive liquids in heavy chemical industry. Beakers in 250 and 400-milliliter capacity are offered. Made by **American Agile Corp.**, Plastics Div., Dept. E, 5806 Hough Ave., Cleveland 3, O.

▲ For more details circle **NED-9808** on enclosed inquiry slip ▲

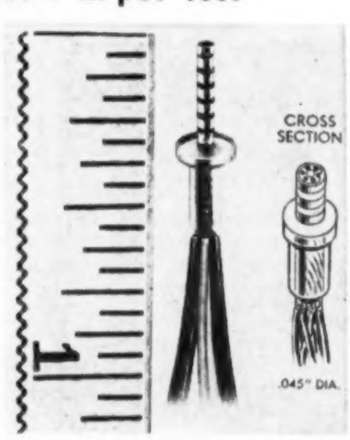
RATCHET PIPE WRENCH
grips pipe close to floor or wall



By using this ratchet action pipe wrench, it is possible to handle pipes that are against floors or walls, close to corners or in channels. Having replaceable jaw inserts of hardened and tempered tool steel, wrench is made in 18-in. size for ¾ to 2½-in. pipe. Toggle design applies force to circumference of pipe, eliminating crushing action. Wrench body is chrome molybdenum alloy steel. Made by **Lurie & Lurie**, Tool Div., Dept. NED, 126 N. Union Ave., Chicago 6, Ill.

▲ For more details circle **NED-9809** on enclosed inquiry slip ▲

SLIP RING ASSEMBLY
withstands 1000-v hi-pot test



Designed for use in miniaturized equipment, minute slip ring assembly is available in units with two to six rings and separate lead feeding each ring. Ring diameters are 0.045-in., width is 0.030-in. and barrier width, 0.015-in. Weight of six-ring unit is 1/80-oz. Despite tiny size, assembly withstands required 1000-v hi-pot test, ring to ring and between color-coded leads. Dimensional accuracies are result of process which involves electroplating rings into grooves of precision-machined, one-piece dielectric core. Rings are hard (Brinell 60 to 70) fine silver with palladium and rhodium, or gold surface deposits. Made by **Electro Tec Corp.**, 55 Bergen Turnpike, South Hackensack 2, N. J.

▲ For more details circle **NED-9810** on enclosed inquiry slip ▲

FREE! Stainless Fastening Selector

Handy slide-chart makes your job simpler, saves valuable time! Instantly identifies A-N Nos. pertaining to stainless steel nuts, screws, bolts, rivets, cotter pins, washers; gives sizes, other data. Write for your FREE copy of Chart 51N TODAY!

Anti-Corrosive Metal Products Co., Inc.
Manufacturers of STAINLESS STEEL FASTENINGS
CASTLETON ON HUDSON NEW YORK

▲ For more details circle **NED-9811** on enclosed inquiry slip ▲

PROBLEM:
How to get a good contact surface on Magnesium to provide proper joint conductivity?
GENERAL PLATE
Provided the solution with "Copper on Magnesium...A composite Metal Combination"

Recently the General Plate was asked how to overcome the difficulty of attaching leads to magnesium and attain good joint conductivity.

General Plate Engineers provided the solution by bonding a thin layer of "copper on magnesium." This new type *clad* metal gave the contact surface required, as well as a surface on which soft soldering operations were readily performed.

No matter what your problem, it will pay you to consult with General Plate. Their vast experience in cladding precious to base metals, or base to base metals can overcome your problems . . . often reduce costs.

General Plate Products include . . . Precious metals clad to base metals, Base metals clad to base metals, Silver solders, Composite contacts, buttons and rivets, Truflex® Thermostat Metals, Alcuplate®, Platinum fabrication and refining, Age-hardenable, #720 Manganese Alloy. Write for information.

GENERAL PLATE
Division of Metals & Controls Corp.
812 Forest Street, Attleboro, Mass.

▲ For more details circle **NED-9812** on enclosed inquiry slip ▲

EXACT WEIGHT Kit for Master Checking

EXACT WEIGHT announces a new master set of weights for checking scales as well as packages in the plant. The complete equipment consists of a heavy duty service kit and strong carrying handle with all weights of brass finished in chrome plate as follows: fourteen 2 lb., two 1 lb., one 8 oz., one 4 oz., one 2 oz., one 1 oz., one ½ oz., one ¼ oz., one ⅛ oz., two 1/16 oz. A complete precision weight outfit . . . easy to carry . . . easy to work with. For full details write for new literature just published.

EXACT WEIGHT SCALES
Industrial Precision
THE EXACT WEIGHT SCALE COMPANY
930 W. Fifth Avenue, Columbus 8, Ohio
2920 Bloor St., W., Toronto 18, Canada

▲ For more details circle **NED-9813** on enclosed inquiry slip ▲

nyb
Investigate
STEELFIN!

It has everything you want in Heavy Duty Heat Surface

Built to meet modern industrial requirements for continuous heat service up to 150 pounds steam pressure. The rugged arc welded construction outperforms and outlasts heating elements made of thinner non-ferrous metals, avoids their expansion-contraction faults, yet has the same BTU efficiency. Originated in 1922, it has an enviable record of dependable performance.

WRITE FOR YOUR COPY OF BULLETIN 514, ALSO 492 WHICH GIVES ENGINEERING DETAILS

nyb **THE NEW YORK BLOWER COMPANY**
SALES OFFICES • 32nd STREET and SHIELDS AVENUE • CHICAGO 16
FACTORY, LAPORTE, INDIANA

▲ For more details circle **NED-9814** on enclosed inquiry slip ▲

industrial OIL AND GAS BURNING EQUIPMENT

- Mechanical Atomizing Oil Burners
- Steam Atomizing Oil Burners
- Refractory Burner and Muffle Blocks
- Industrial Gas Burners
- Low Air Pressure Oil Burners
- Fuel Oil Pump Sets
- Valves, Strainers, Furnace Windows
- Tandem Block Combustion Units
- Combination Gas and Oil Burners

Detailed information gladly sent you upon request.

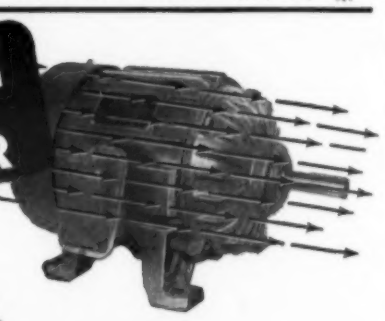
NATIONAL AIROIL BURNER COMPANY, INC.

1316 EAST SEDGLEY AVENUE, PHILADELPHIA 34, PA.

Southwestern Division: 2512 SOUTH BOULEVARD, HOUSTON 6, TEXAS

For more details circle NED-9815 on enclosed inquiry slip

ALLIS-CHALMERS Totally-Enclosed Fan-Cooled MOTOR



Get the Motor that Cleans Itself

MOTOR CLEANING operations are reduced . . . maintenance costs are lower than ever before with the new Allis-Chalmers tefc motor. Here's why! Concealed air passages have been eliminated; dirt cannot build up to cause overheating. Cooling air is blown over the ribbed cast iron frame and bearing housings — carrying dirt away with it. Oily dirt that sticks can be wiped or blown off.

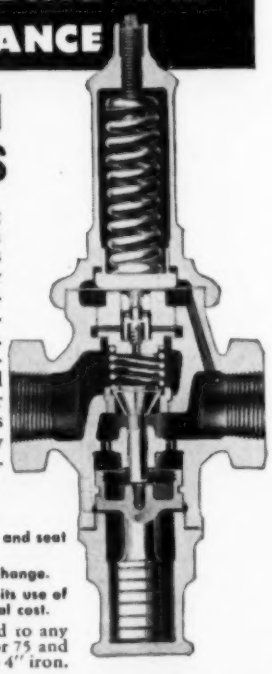
This new motor built in all NEMA standard frame sizes from 224 to 505. Also in explosion-proof type. Get Bulletin 51B6144 from your A-C Authorized Distributor or District Office, or write Allis-Chalmers, Milwaukee 1, Wisconsin. A-3463

ALLIS-CHALMERS

For more details circle NED-9816 on enclosed inquiry slip

YOU PAY NO WITHHOLDING TAX ON PERFORMANCE

with MASONEILAN REDUCING VALVES



Masoneilan No. 11 Reducing Valves give you accurate steam pressure regulation regardless of initial pressure fluctuations or changes in demand. Their performance cuts operating expenses by reducing waste. Their rugged construction assures long operating life and minimizes maintenance. Their on-the-job records in countless plants throughout the country show year after year of continuous service.

CHECK THESE FEATURES—

- Stainless steel main valve, auxiliary valve and seat rings are standard . . . at no extra cost.
- Wide range of adjustment without spring change.
- Large capacity due to pilot operation, permits use of smaller size regulators . . . saves in original cost.

Initial pressures up to 250 lbs. reduced to any desired pressure between 5 and 75 lbs. or 75 and 255 lbs! Sizes ½" to 2" bronze; 2½" to 4" iron.

MASON-NEILAN REGULATOR COMPANY
1189 ADAMS STREET
BOSTON 24, MASSACHUSETTS, U. S. A.

For more details circle NED-9817 on enclosed inquiry slip

VARIABLE SPEED DRIVE
uses standard NEMA motor and compound steel cable V-belt

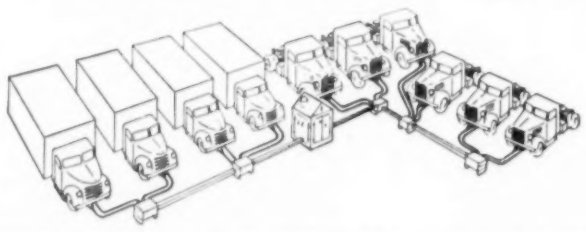
Accurate calibration of jet aircraft controllers, tachometers and other instruments is possible with the Compound V-belt drive. It employs standard NEMA motors of any required electrical characteristics and of either open or explosionproof types. Capacities ranging from ½ hp or less up to 10 hp are now available, with larger drives for loads of 20 hp and higher being developed. Compounding of wide range combination sheaves allows ratios up to 50 to 1 with speed ranges from 150 to 7500 rpm.

Sealed ball bearings and variable pitch sheaves equipped with sintered bronze bushing are incorporated in design, and regular or staticproof stretchless steel cable V-belts are furnished. Free-operating balanced control changes pitch diameter of all four sheaves simultaneously. Speed variations can be held to less than ¼ of 1 per cent for any speed throughout range. Made by **Speed Selector, Inc.**, 118-N Noble Court, Cleveland 13, O.

For more details circle NED-9818 on enclosed inquiry slip

PARKING LOT HEATER
oil-fired heating system keeps bus and truck fleets ready to go

Up to 10 buses and 20 trucks can be protected from freezing up during nonuse hours in the wintertime with the oil-Vapor parking lot heating system. Heater which



circulates hot water through vehicles connected into system puts out 250,000 Btu per hour, is housed in 4 x 4-ft metal building, weighs 1500 lb and is easily moved.

It takes one man about 2 minutes to make the three connections on bus or truck motor block. Snap fittings are used and they are readily installed on vehicles. Fittings prevent any waste of water or mess in making connections.

Circulating pump, heater, forced draft blower and heater fuel pump are all operated by one 1½-hp electric motor. When circulating water temperature drops to 140° F, heater automatically fires and continues to operate until water reaches 170° F. Safety alarm bell signals water temperature drop to 80° F, and stack switch turns unit off if exhaust gases get too hot from lack of water in system. Made by **Vapor Heating Corp.**, Dept. PR, 80 E. Jackson Blvd., Chicago 4, Ill.

For more details circle NED-9819 on enclosed inquiry slip

SYNTRON

PARTS FEEDERS

PROVIDE AN ECONOMICAL ANSWER TO THE FEEDING OF PARTS

HERE'S HOW two Feeders solved the problem of feeding screws on a combination counting and packaging machine.

Small, medium or large parts of various shapes and materials . . . Syntron Parts Feeders will feed them single file . . . in oriented position . . . at variable rates . . . and without damage . . . to grinders and presses, inspection and counting and packaging devices, and other automatic processing equipment.

Operates by controlled vibration—no motors, gears, cams, belts or other wearing parts to require expensive maintenance. Units are also very compact.

Catalog data upon request. Or send details of your problem along with sample parts to . .

SYNTRON CO.
405 Lexington Ave. Homer City, Pa.

For more details circle NED-9820 on enclosed inquiry slip

LAZY LIQUIDS
KEPT ON THE MOVE

Maybe it is Asphalt, Rosin, Wax, Sulphur, Syrup or some other LAZY Liquid. Heat them and they flow more readily. Heat the pipes that convey them also—and they continue to flow.

Steam, Hot Water, or Hot Oil circulated through Jacketed Piping and Fittings will do just that. Keep these otherwise lazy liquids on the move.

Parks-Cramer Jacketed Pipes come in sizes 1¼", 1½", 2", 3", and 4"—inside dimensions. Jacketed fittings include: two- and three-way Plug Cocks, Tees, 90° and 45° Elbows, Crosses, Expansion Joints and Relief Valves.

Parks-Cramer Company
ENGINEERS and CONTRACTORS
Fitchburg, Massachusetts

For more details circle NED-9821 on enclosed inquiry slip

STURTEVANT Laboratory Machines Assure Quality of Products
Fast - Economical - Accurate

Sturtevant Laboratory Equipment meets the exacting requirements of laboratory work. They are fast and accurate...provide true samples. Rugged and dependable, Sturtevant equipment actually has all the features of full size machines plus extra accuracy and wider range of adjustment. The "Open-Door" accessibility permits quick, thorough cleaning . . . prevents the possibility of previous batches from contaminating new samples.
Investigate Sturtevant equipment for your laboratory. Write for complete details and catalog.

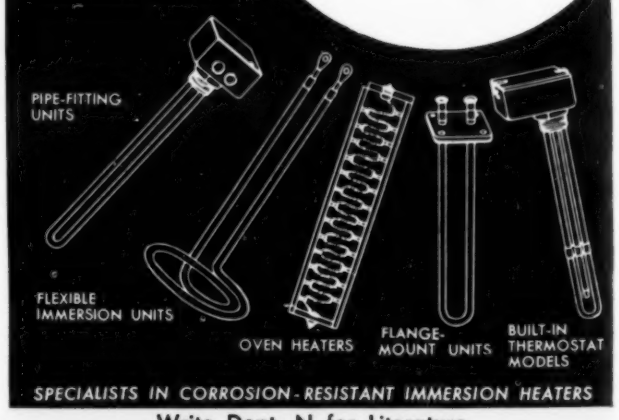
STURTEVANT MILL COMPANY
114 CLAYTON STREET, BOSTON 22, MASS.

For more details circle NED-9822 on enclosed inquiry slip

THERMALINK Electric HEATING ELEMENTS

OVER 600 STANDARD MODELS & TYPES

IMPROVE YOUR ELECTRICALLY HEATED PRODUCTS AND EQUIPMENT WITH THERMALINK ELEMENTS



SPECIALISTS IN CORROSION-RESISTANT IMMERSION HEATERS

Write Dept. N for Literature

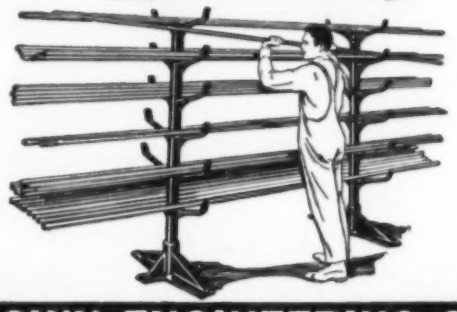
ELECTRO-THERM INC.
8024 GEORGIA AVE., SILVER SPRING, MD.

For more details circle NED-9823 on enclosed inquiry slip

SPEEDS UP STOCK-ROOM SERVICE

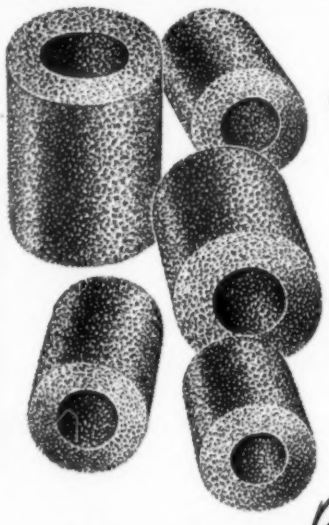
The BROWN TIME-SAVING RACK saves the time previously lost end-hauling each bar of stock its entire length from the old-style, closed-side Rack, the Brown Rack requiring but a few inches of side movement. Each length, width and thickness of stock is displayed in goldfish visibility for instant selection. Workmen waiting for stock are served without waste of time, and returned to their production machines to turn out a maximum of output. Any time you require additional storage space, all you need do is to add more units. If you want to relocate it at any time, you can do so for it is unattached to the building. It is a simple, durable article made of metal in five styles. It can't burn, warp, sag or twist: depreciation is practically nil. SEND FOR BULLETIN No. 26-D DESCRIBING—

BROWN'S *QUICK-SERVE* RACKS



BROWN ENGINEERING CO.
129 N. THIRD ST. READING, PENNA.
RACKS • VISES • CLUTCHES • COUPLINGS

For more details circle NED-9824 on enclosed inquiry slip



CHICAGO Internal Grinding WHEELS

Rapid Delivery

MANUFACTURED TO ORDER

Chicago Internal Grinding Wheels produce better finishes with longer wheel life and cutting action. They're your best buy—"tailor made" to your specifications and speedily delivered.

Advanced production methods assure you perfectly balanced Internal Wheels to meet rigid finishing requirements. Faster delivery . . . with overnight service for special jobs.

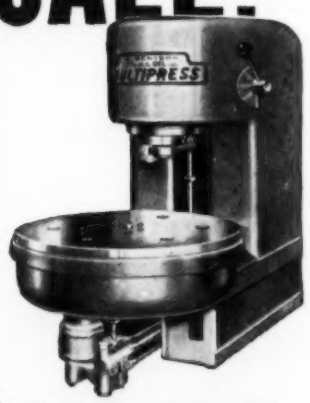
WRITE TODAY for full details on all Chicago Wheel products . . . and *free* sample Chicago Internal Grinding Wheel.

CHICAGO WHEEL & MFG. CO.
Dept. NED, 1101 West Monroe St.
Chicago 7, Illinois

For more details circle NED-9825 on enclosed inquiry slip

FOR SALE:

1 Assembly Press
1 Die-Cast Trimmer
1 Punch Press
1 Crimping Press
1 Testing Machine
1 Die-Stamping Unit
1 Staking Press
1 Swager
1 Deep-Draw Press
1 Blanking Unit



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®MULTIPRESS

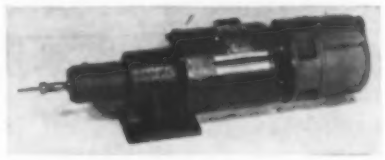
—for Multipress is tops in versatility. Its speedy, accurate, oil-smooth efficiency and *power control* adapt quickly to dozens of precision jobs when properly tooled. One to 50-ton sizes and capacities; Index Table Feeds and other standard accessories for special jobs. Write today for full details.

DENISON HydrOILics

The DENISON Engineering Co.
1151 Dublin Rd., Columbus 16, Ohio

For more details circle NED-9826 on enclosed inquiry slip

LEAD SCREW TAPPING UNIT is self-contained and automatic



Built-in electrical controls for forward and reverse action of tapping spindle provide this self-contained lead screw tapping unit with automatic operation. Easily accessible lead screw can be changed to suit any tap from No. 80 to ⅜-in. Single or multiple operation is possible in any plane or angle. With accurate tap properly ground and aligned, unit will produce class 4 threads consistently. Parts subject to wear are oil-bath lubricated. Quick-reversing motor will withstand 30 reversals per minute. Multiple spindle heads can be employed for tapping several holes at one time. Made by **Precision Thread Engineering Co.**, 2542 Park Ave., Detroit 1, Mich.

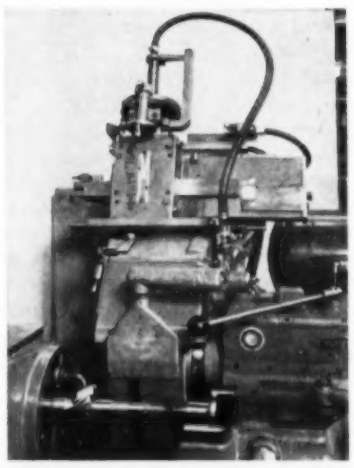
For more details circle NED-9827 on enclosed inquiry slip

TRAFFIC LINE MARKERS need no attention once positioned

Capable of withstanding 63,000 lb pressure, Dur-O-Line traffic markers are easily applied to concrete, asphalt or wood surfaces. Once applied, they need no attention during their life, estimated at 4 to 6 years. Tenite markers are traffic yellow or dead white. Each is saucer shaped disk 4½ in. in diameter. Two workers can lay 100 markers per hour. Thoroughfare can be used immediately after installation. Made by **Traffic Safety Supply Co.**, Dept. NE, N.E. Sandy Blvd. at 27th St., Portland 12, Oreg.

For more details circle NED-9828 on enclosed inquiry slip

GRINDING WHEEL TRUING TOOL also incorporates wheel guard

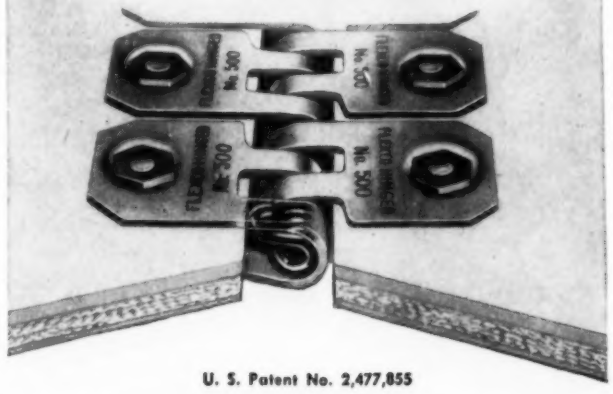


Automatically performing angular, step, straight or combination formed wheel face truing at touch of push-button, this wheel guard type of truing device for cylindrical grinders has diamond truing tool located inside wheel guard above wheel. Changes in speed and feed are quickly made whenever desired. Rate of speed of diamond travel when not in contact with wheel is automatically increased to reduce overall truing time. Tool permits close control of amount of abrasive removed from wheel without disturbing table settings. Made by **Norton Co.**, 200 New Bond St., Worcester 6, Mass.

For more details circle NED-9829 on enclosed inquiry slip

. . . the new separable

FLEXCO HINGED BELT FASTENERS



U. S. Patent No. 2,477,855

For joining grader, trencher, ditcher and other earth moving conveyor belts.
For belts ⅜" to ½" thick.
A FLEXCO fastener that is HINGED. Has removable hinge pin.
Troughs naturally, operates through take-up pulleys. Strong, durable . . . pull or tension is distributed uniformly across joint.

Order From Your Supply House. Ask for Bulletin HF 500.

FLEXIBLE STEEL LACING CO
4664 Lexington St., Chicago 44, Ill.

For more details circle NED-9830 on enclosed inquiry slip

SAFER LOAD BREAKING

New Switch Withstands Heavy Short Circuits Without Damage

For the first time in a safety switch, magnetic repulsion is used to break loads quickly, safely.

The unique "arc-quenching" action of Trumbull's HCI (High Capacity Interrupter) Type A switch provides extra safety and lengthens contact life by preventing pitting.

Other safety features: no exposed live parts when switch is OFF and door is open . . . no faulty indication—switch is either fully ON or fully OFF. Underwriters' Laboratory Approved.

Write for Bulletin TEC-10.

TRUMBULL ELECTRIC
Department of General Electric Company
PLAINVILLE, CONNECTICUT

For more details circle NED-9831 on enclosed inquiry slip

ACCURATE INFORMATION

IS VITAL WHEN YOU DEAL WITH

TEMPERATURE and RELATIVE HUMIDITY!

. . . Rely On **Bendix-Friez**

With the Bendix-Friez portable humidity and temperature recorder, 10 or 30 hour records may be kept on convenient 3" x 5" charts. Compact design and superior precision make this handy instrument ideal for taking on-the-spot recordings covering any productive process or plant condition. For more detailed information write to:

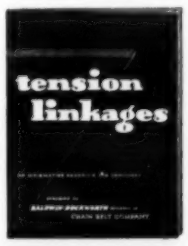
Model 160
Portable Humidity and Temperature Recorder

FRIEZ INSTRUMENT DIVISION of
1344 Taylor Avenue • Baltimore 4, Maryland
Export Sales: Bendix International Division, 72 Fifth Ave., N. Y. 11, N. Y.

For more details circle NED-9832 on enclosed inquiry slip

machine designers

this informative engineering handbook can help you!



If you design lift trucks, hoists, counterweight suspensions, controls, or any type of equipment where you must transmit pull or lift, this informative, free engineering handbook on tension linkages will help you!

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Division of Chain Belt Company
364 Plainfield Street
Springfield 2, Mass.

51-409C

Send me my copy of your Bulletin on Tension Linkages.

NAME.....
COMPANY.....DEPT.....
ADDRESS.....
CITY.....STATE.....

For more details circle NED-9833 on enclosed inquiry slip

CHALLENGE SURFACE PLATE EQUIPMENT

PRECISIONED FOR YOUR PRECISION NEEDS!

ANGLE PLATES Provide a practical and versatile method for clamping and holding work. Challenge plates are made of high grade, fine-grained semi-steel—special heat treated and precision ground to an accuracy of .0005-inch. Made in 22 sizes, from 2½x6x12 inches up to and including 18x18x18 inches.

BOX PARALLELS: Special heat treated and precision ground to an accuracy of .0005-inch.

V-BLOCKS: Recommended for supporting shafts and other cylindrical work when drilling, checking, inspecting, etc. Made of fine-grained semi-steel castings. Special heat treated, precision ground. Ribbed sides.

RIGHT ANGLE IRONS: Made of fine grain special analysis semi-steel, specially treated. End and sides are precision ground both square and parallel.

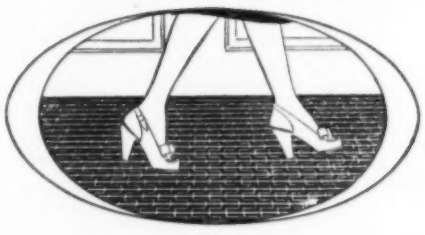
STRAIGHT EDGES: Scientifically shaped and ribbed to retain accuracy. Made of special analysis semi-steel.

Write for complete information and prices. 684

THE CHALLENGE MACHINERY CO.
GRAND HAVEN, MICHIGAN

▲ For more details circle NED-9834 on enclosed inquiry slip ▲

THE SAFE OPEN STEEL FLOORING IS TRI-LOK

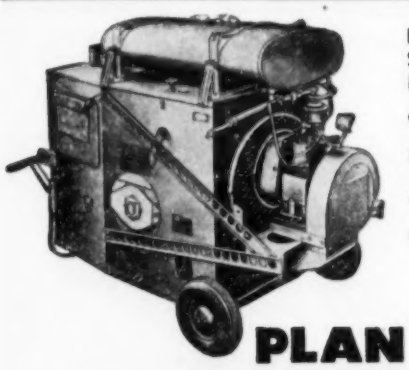


No object over ½ square inch can pass through super-safe U-Type Tri-Lok Flooring. It is unsurpassed for plant installation, walkways, loading platforms. Maximum strength, air and light with minimum weight. Efficient distribution of concentrated loads. Write for Bulletin NM 1103.

The Tri-Lok Company is also equipped to furnish *riveted* and Tri-Forge *welded* open steel flooring. Tri-Lok can be furnished in a variety of metals, including aluminum alloy, stainless steel, etc.

DRAVO CORPORATION
National Distributor for the Tri-Lok Company
Dravo Building, Pittsburgh 22, Pennsylvania
Sales Representatives in Principal Cities

▲ For more details circle NED-9835 on enclosed inquiry slip ▲



HERMAN NELSON STANDARD MODEL PORTABLE HEATER

Gasoline engine powered.
Uses gasoline for heating fuel.
250-385,000 BTU capacity.
Completely self-contained.

PLAN NOW ON PORTABLE HEAT

...Stop Winter Shutdowns!

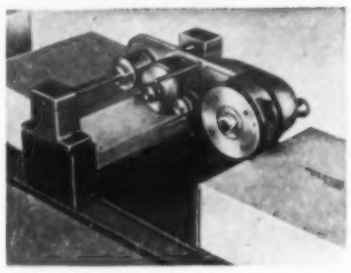
HERMAN NELSON Portable Heaters are specially designed for rugged, heavy-duty service. Heat is delivered where you need it . . when you want it . . . for either construction or standby. Superior Herman Nelson features include "*sealed flame*" for elimination of dangerous fumes . . . fire hazards. Economical operating cost . . . easily moved and operated by one man. Available in many models and types—capacities up to 450,000 BTU.

Plan now on Herman Nelson units for quick, clean, safe heat this winter. For full information write Dept. ND-12.

HERMAN NELSON
Division of AMERICAN AIR FILTER COMPANY, INC.
MOLINE, ILLINOIS

▲ For more details circle NED-9836 on enclosed inquiry slip ▲

PACKAGE IMPRINTING MACHINE prints on cartons, cans and bottles at production speeds

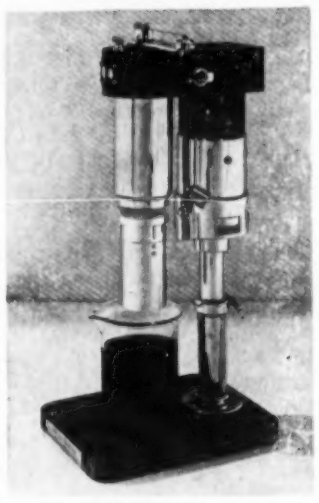


Compact, friction-powered Rolacoder No. 401 automatic package imprinting machine is production-line attachment that produces spot-registered imprints of code-dates, weights, sizes, flavors and other information on small-size cartons, cans, canisters and bottles. Machine imprints up to four-line legends of 1 x 5-in. maximum size on top or side of cartons as they pass through cartoner or sealer, or along chain or belt conveyor.

Metalok type-holder locks interchangeable rubber type in place during imprinting operation. Twin-roll inking system prevents over and under-inking. Normally preset at factory for cartons of specific size, imprinter can also be obtained with interchangeable cams for modifying machine action. Mounts for installation in either vertical or horizontal position to imprint from top or side of line are furnished. Made by **Adolph Gottscho, Inc.**, 6C Terminal Rd., Hillside 5, N. J.

▲ For more details circle NED-9837 on enclosed inquiry slip ▲

FLUID VISCOSITY METER is rotational type with five speeds



Fluid viscosity from 1 to 150 cycles and gel strength from 0 to 200 grams is quickly determined with Fann V-G viscosity meter which weighs 9 lb and operates from 6-v car storage battery. It is rotational type with five speeds, permitting sustained rates of shear for any desired period of time. Measuring system employs motor driven outer cylinder concentric with stator, and test fluid occupies annular space between the two. When outer cylinder is turned at constant speed, torque is exerted on stator which is proportional to fluid's viscosity. Models have straight line calibration at all speeds and provide rotor speeds of 200, 300, 400, 500 and 600 rpm. Carrying case is available. Made by **Geophysical Machine Works**, P. O. Box 6101, Houston, Tex.

▲ For more details circle NED-9838 on enclosed inquiry slip ▲

DO YOU KNOW? It's now possible to transform practically any flat surface into a nonglare green chalkboard writing slate. New Rite-On-Green paint is applicable with brush or spray on walls, Masonite, plywood, wallboard or metal if surface is clean, smooth and dry. Chalk marks can be erased readily, and surface can be washed. Price of paint is $2.10 per quart and is made by Sapolin Paints Inc., Dept. N, 229 E. 42nd St., New York, N. Y.

▲ For more details circle NED-9839 on enclosed inquiry slip ▲

Control Costs with

COUNTING SCALES

Toledo's *complete line* of Counting Scales gives you the right model for *accurate cost control* in a wide range of jobs! For issuing pre-determined quantities of uniform parts . . . counting unknown quantities . . . for *faster inventory counts* . . . or to get accurate receiving, shipping, production, cost and piece-work counts. Complete selection of models . . . for parts weighing only a few grains . . . up to total counting capacities of several tons. Also choice of double and triple ratio combinations. Send for booklet 2204. Toledo Scale Company, Toledo 12, Ohio.

TOLEDO
HEADQUARTERS FOR SCALES

▲ For more details circle NED-9840 on enclosed inquiry slip ▲

M&M giant keyseaters

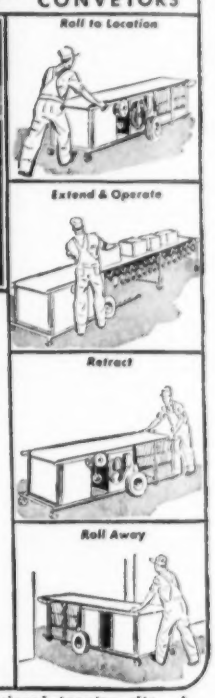
M & M Giant Keyseaters, built in a range of sizes, speedily and accurately cut internal keyways or splines in the bores of pulleys, gears, fly wheels or any other machine part. Special fixtures and cutters are available for unusual shaped keyways and taper work. Send us your problems.

mitts & merrill
1000 South Water • SAGINAW, MICHIGAN

63

▲ For more details circle NED-9841 on enclosed inquiry slip ▲

MODERN TIME AND COST SAVERS BUILT BY... Standard GRAVITY & POWER CONVEYORS



SAVE TIME LOADING — UNLOADING WITH THE

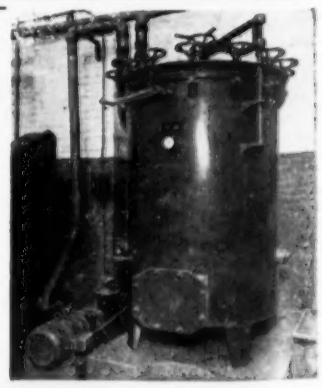
E-X-T-E-N-D-O-V-E-Y-O-R

This compact, mobile, easily maneuverable power-belt conveyor unit extends to 46 ft. in either direction and retracts to 9 ft. 10 in. Reaches into cars, trucks, trailers. Handles boxes, bags, bundles, cartons, crates, cases weighing up to 150 lbs. Available in two models—1 way stretch and 2 way stretch—and 4 sizes. Write for Extendoveyor Bulletin—address Dept NED121.

STANDARD CONVEYOR COMPANY
General Offices: North St. Paul 9, Minn.
Sales and Service in Principal Cities

▲ For more details circle NED-9842 on enclosed inquiry slip ▲

Dependable Pumps mean Increased Output



MOTOR PUMP

For handling hot or cold liquids in your plant, there's no better buy than Ingersoll-Rand MOTORPUMPS. Their compact design makes them rugged and strong with ability to stand up under severe service. No special foundations are needed. They can be bolted to your equipment and mounted in any position. And there is a MOTORPUMP to fit every need up to the delivery of 1800 gallons per minute. Don't fail to take advantage of the best pump buy on the market.

Ingersoll-Rand
11 Broadway, New York 4, New York

▲ For more details circle NED-9843 on enclosed inquiry slip ▲

Photo shows plate glass pushed against resilient air-inflated wheel. Note large abrasive contact area—up to 3000% more! This means a corresponding production increase.

...how to INCREASE BUFFING, POLISHING PRODUCTION 3000%

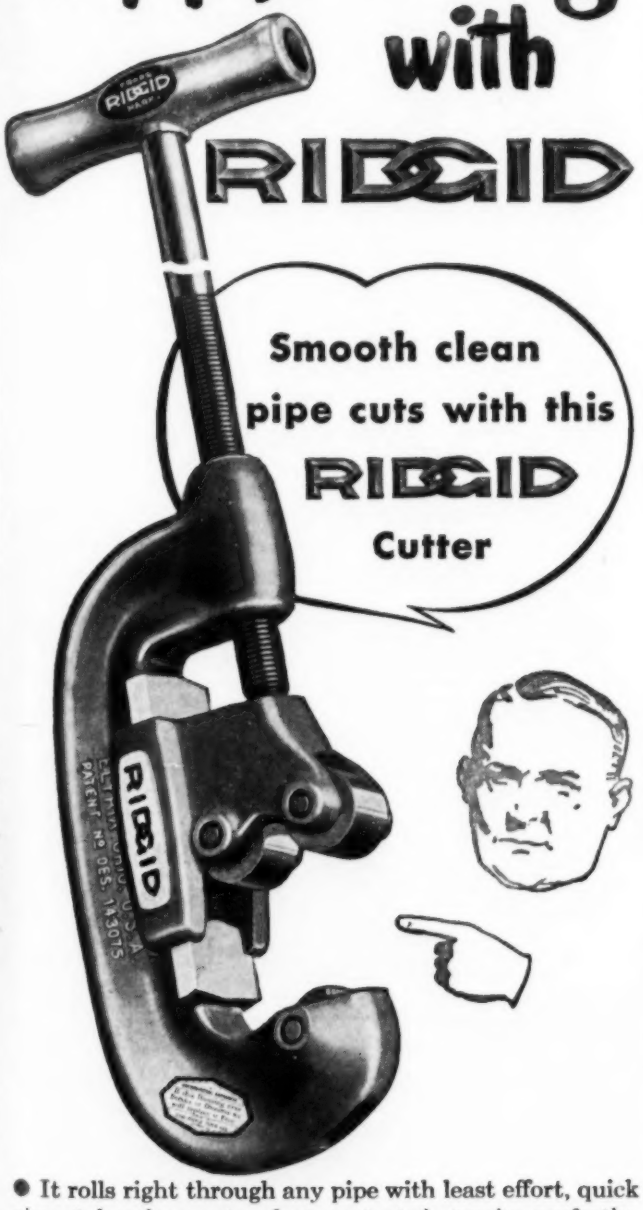
● You can boost your buffing and polishing output up to 3000% on flat work ...and 600 to 700% on contours...by using this resilient air-inflated wheel. Many other advantages such as—*no chatter or bounce... eliminates under-cuts . . . produces a straight pattern similar to a hand finish.* For use on portable tools or bench-stands—wherever ordinary polishing wheels are used. Send NOW for free literature and name of distributor nearest you. Nu-Matic Grinders, Inc., 8223 Carnegie Ave., Cleveland 3, Ohio.

send for full information TODAY!

NU-MATIC Air-Inflated GRINDERS

▲ For more details circle **NED-9844** on enclosed inquiry slip ▲

Extra fast, easy pipe cutting with RIDGID



● It rolls right through any pipe with least effort, quick almost burrless cuts—factory tested, tracks perfectly. Special thin-blade cutter wheel for extra fast cutting—or heavy-duty wheel for extra long service. Guaranteed warp-proof special malleable housing. Five models to 6" pipe; 4-wheel short-handle models for speedy cutting in tight places. For tops in clean, easy pipe cutting, buy RIDGID Cutters at your Supply House.

RIDGID

Work-Saver Pipe Tools

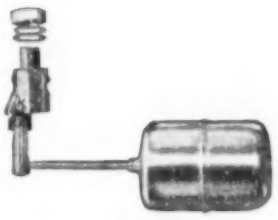
THE RIDGE TOOL CO. • ELYRIA, OHIO

▲ For more details circle **NED-9845** on enclosed inquiry slip ▲

FLOAT-OPERATED VALVE usable on water pressure to 100 psi

Liquid level control applications involving water at pressures up to 100 psi can be handled by No. 18 series float valves. Three variations of this control are offered. No. 18, illustrated, consists of valve mechanism and float. No. 118 has float mounted at right angles to valve and latter is always above water level to prevent back-siphonage. No. 518 includes float and valve in diecast chamber with well-fitting cover.

No. 18



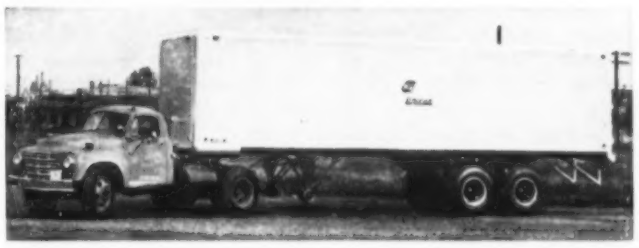
No. 118

Valve mechanism is copper or brass except for neoprene seat. Capacity ranges up to 1500 lb per hr at 100 psi with ⅛-in. pipe for supply. Valve opens to full capacity with small float drop and closes tightly when float rises. Made by **McDonnell & Miller, Inc.,** 3500 N. Spaulding Ave., Chicago 18, Ill.

▲ For more details circle **NED-9846** on enclosed inquiry slip ▲

REFRIGERATOR TRUCK-TRAILER plywood construction is light, rigid

Light, rigid and easily maneuvered, Unicel refrigerator truck-trailer is constructed of cellular plastic-laminated plywood which has strength of steel. Laminates are



made by overlaying strong plywoods with specially formulated plastics, then subjecting them to high-frequency heat applied under electronic pressure which molds them into single unit-cellular structures. Only steel in construction is in heavy duty tandem and kingpin wearplate assembly and doorframes. Loads remain refrigerated for long periods since insulation is sealed into cell structure. Plastic facing renders trailer impervious to weather. Approximate outside dimensions are 32 x 8 x 12 ft, volume is 1735 cu ft and load capacity is 40,000 lb. Made by **Pressed Steel Car Co.,** Unicel Div., Dept. Q, 6 N. Michigan Ave., Chicago, Ill.

▲ For more details circle **NED-9847** on enclosed inquiry slip ▲

DO YOU KNOW? Answers to the question, "Can your sealers, adhesives or greases be pumped or sprayed satisfactorily?" are readily available to eastern manufacturers through a new laboratory opened in Philadelphia. Samples will be tested free and without obligation. This laboratory supplements one already in operation in Minneapolis. Address your request for service to Gray Co., Testing Laboratory, 2124 Fairmount Ave., Philadelphia 30, Pa.

▲ For more details circle **NED-9848** on enclosed inquiry slip ▲

Plenty of Places...

Where this 3-in-1 Workhorse Will Save Time and Work

SERVICE LIFTABLE

Table Top 26" x 43"

IT'S A WORK BENCH
A work bench on wheels, with a steel top that moves up and down—that's the Service "Liftable".

IT'S A TRUCK
Perfect for moving heavy dies, assemblies from one spot to another.. saves lifting and carrying.

IT'S A LIFTER
Transfers heavy units from one table height to another merely by cranking the top up or down to any height from 28" to 42".

To move heavy pieces, dies, assemblies vertically from one level to another—and then horizontally from one place to another — use the Service LIFTABLE. Lowered, the top is 28" from floor . . . raised, it's 42". Capacity 2000 lbs. . . . chain and screw lifting mechanism...all welded construction...locks positively at any height . . . readily portable. Cut handling costs—put LIFTABLES in your plant.

Get Descriptive Circular—Write Today.

SERVICE CASTER & TRUCK CORP.

INDOOR MILES Work EASIER and SAFER

Executive Offices: Albion, Michigan
Plants at Albion, Michigan and Somerville 43, Mass.
See your classified Telephone Directory for name of nearest Service Distributor

▲ For more details circle **NED-9849** on enclosed inquiry slip ▲

*Overcured Sections — unavoidable every 30' to 40' in all belts made by the flat press method. Only Rotocuring eliminates this major cause of belt failure.

OCS* means Trouble Ahead!

This Achilles Heel of Conventional Conveyor Belts now completely eliminated by ROTOCURE

The manufacture of conveyor belting by conventional flat press curing results in overcured segments 2" to 4" long across the belt width. These weakened portions of the belt are inherent in this process of "start and stop" vulcanization. They get a double treatment because earlier cured areas move forward *less than a full press length.*

Rotocure, the modern BWH method, eliminates these Achilles Heels of otherwise strong belting. Your Rotocure belt is *constantly* in uniform motion during vulcanization.

How does it pay off? In (1) elimination of mechanical distortion at the press ends, (2) up to 40% increased belt flex life, (3) constant, uniform stretch, (4) uniform, abrasion-resistant covers.

Look into BWH rotocured conveyor and transmission belts. They permit operation at lower tensions . . . give you an *additional* bonus in extended belt life.

Another Quality Product of

BOSTON WOVEN HOSE & RUBBER COMPANY

Distributors in all Principal Cities

PLANT: Cambridge, Mass. • P. O. Box 1071, Boston 3, Mass., U. S. A.

▲ For more details circle **NED-9850** on enclosed inquiry slip ▲

FOR YOUR PANEL DIALCO

A NOVEL and UNIQUE CIRCUIT INDICATOR

DESIGNED FOR NE-51 NEON LAMP
For 110 or 220 volt circuits
The required resistor is an integral part of this assembly —"built-in."
RUGGED DEPENDABLE LOW IN COST

PATENTED: No. 2,421,321; Cat. No. 521308-997

WILL *YOU* TRY A SAMPLE?

Write on your company letterhead. We will act at once. No charge, of course.

SEND FOR THE 192 PAGE HANDBOOK OF PILOT LIGHTS

Among our *thousands of Pilot Light Assemblies* there is one which will fit *your special conditions.* Many are especially made and approved for *military* use. We pride ourselves on prompt deliveries—*any quantity.*

ASK FOR OUR APPLICATION ENGINEERING SERVICE

Foremost Manufacturer of Pilot Lights

The DIAL LIGHT COMPANY of AMERICA

900 BROADWAY, NEW YORK 3, N. Y. SPRING 7-1300

▲ For more details circle **NED-9851** on enclosed inquiry slip ▲

QUICK DELIVERY ON VALVES!

HANNIFIN *precision built* **VALVES**

for single or double-acting cylinders

Hannifin precision-built valves are *reliable*—and quickly *available!* For positive, accurate control of air-powered equipment, there is a Hannifin valve that will give long-time service in production operations.

QUICK DELIVERY IN ANY QUANTITY!

"Packless" Rotary Disc Type

Hand operated. Simple design avoids leakage, waste of power—gives positive control. Sizes ⅛" to 1¼".
Also foot-operated types—leave operator's hands free. Sizes, ¼" to ¾".

"Effortless" Sliding Disc Type

Foot operated. Fast, effortless action. Pilot operated, air pressure does the work.
Also finger-tip actuated models.

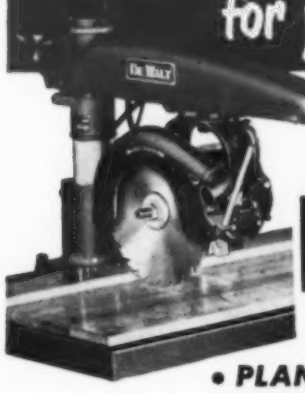
Write for Bulletins 57, 240, 241

HANNIFIN

Hannifin Corporation • 1127 S. Kilbourn Ave. • Chicago 24, Illinois

▲ For more details circle **NED-9852** on enclosed inquiry slip ▲

the No. 1 money saver for your plant



DEWALT

gives you more work for your money in:

- PLANT MAINTENANCE
- PATTERN SHOPS
- CRATING AND BOXING

This versatile, all-purpose DeWalt is never idle! In *your* plant, it can take care of all your woodworking needs—quickly, accurately and safely. It is *many* machines in one! Simply by changing the cutting tool, you have another machine! Write for catalog. DeWalt, Inc., Dept. NE-12, Fountain Ave., Lancester, Penna.

DEWALT A subsidiary of American Machine and Foundry Co.

For more details circle NED-9853 on enclosed inquiry slip

MORE SOLD THAN ANY OTHERS

Write for Catalog OF USES AND SPECIFICATIONS

GENERAL
Industrial Pneumatic Tires

..SAVE TIME·LABOR·MONEY

Protect equipment and floors • Reduce Breakage

- ★ Wide Base Wheel
- ★ More Air Volume
- ★ More Stability
- ★ More Load Capacity
- ★ Longer Miles in Hi-Speed Service

Available separately or in assemblies of Tires, Tubes and Wheels. Size O. D. 8" to 27"—200 to 4000 lbs. cap. for low and high speeds.

Rigid CASTER FORKS *Swivel*

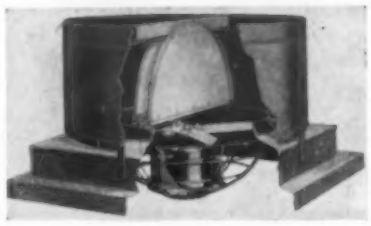
Wide-base caster forks engineered to carry heavier loads without adding dead weight to equipment. Available in identical pairs in a wide range of sizes.

Send for Catalog • Dept. 4

THE GENERAL TIRE & RUBBER CO. AKRON, OHIO

.. For more details circle NED-9854 on enclosed inquiry slip

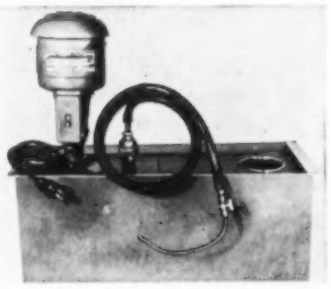
POWERED ROOF VENTILATOR
open only with fan operating



This "straight-through" type powered roof ventilator is open only when propeller fan is operating, the air stream being utilized to open and hold two semicircular halves of damper. Low height ventilator has streamlined fan ring directly above square-tipped blade propeller which guides air stream smoothly without back flow. Called Whirlout, waterproof unit is offered in sizes from 16 to 60 in. Made by **Swartwout Co.**, 18519 Euclid Ave., Cleveland 12, O.

For more details circle NED-9855 on enclosed inquiry slip

PORTABLE COOLANT UNIT
pumps 30 gpm up to 12 ft.



Designed for eight or ten-spindle drill press, model 10-10 portable coolant unit has 11-gal reservoir, 30-gpm capacity and will pump up to 12 ft. It can be used on single machines or, with changes, to feed three or four different machines at same time. Indestructible neoprene bearing on lower part of pump is unaffected by any coolant and does not permit abrasives to imbed. Ball thrust bearing and thrust collar in upper part of pump absorbs constant impeller thrust. Unit is powered by ¼-hp 110-v, 60-cycle motor. Neoprene hose is ⅜-in. by 6 ft and is equipped with shut-off and flexible nozzle. Made by **Shellback Mfg. Co.**, 1322 E. Elza, Hazel Park, Mich.

For more details circle NED-9856 on enclosed inquiry slip

BORE GAGES
improvements increase usage

Positioning of indicator to face operator at all times and adjusting of handle to proper checking depth are possible with redesigned Nilco pistol-type bore gage. Instruments are used to check bores on machines where standard length gages are impractical because of space limitations. Features include three-point alignment, two-point gaging, one-piece centralizing plungers, interchangeability of parts and simple construction for easy maintenance. Any size or make indicator is adaptable to gage. Instruments are made in five models covering range from 1-1⅝ to 6-12 in. Made by **Nilsson Gage Co.**, Lake & Fairview, Poughkeepsie, N. Y.

For more details circle NED-9857 on enclosed inquiry slip

VALUE BONUS at no extra cost with the

MARK-TIME two-speed BELL TIMER

first where quality counts

This exclusive, patented Mark-Time development permits use of the same timing unit for accurate, dependable timing of a 6 minute or 60 minute cycle.

Just shift the lever to change setting. The same dial is used for both cycles, thus providing fractional minute calibration for 6 minute operation.

2 hour—12 minute timings also available.

Available in a wide variety of dials and knobs.

Write for further details and prices.

MARK-TIME 2100-SERIES TWO-SPEED BELL TIMER
Center Stud mounting only. May be supplied in portable form.

In Canada send inquiries to: Ontario Hughes Owens Co. Ottawa, Ontario

MARK-TIME M. H. RHODES, INC. HARTFORD, CONNECTICUT

For more details circle NED-9858 on enclosed inquiry slip

STEAM TRAPPING OUT-DOORS

When steam heated equipment is too far away to permit returning the condensate to the boiler, ordinary steam traps cause much waste by discharging condensate at high temperature.

If equipment is out-doors, there is the further problem of preventing freeze-ups in winter.

Meet both problems with...

SARCO LIQUID EXPANSION STEAM TRAPS No. 871

This trap discharges condensate to atmosphere below 212°F regardless of inlet pressure (to 350 psi). When cold, its large discharge valve is wide open,—it cannot freeze.

507 Write for Bulletin 258 for full information.

SARCO SAVES STEAM — SARCO COMPANY, INC. Empire State Bldg., New York 1, N.Y. SARCO CANADA, LTD., TORONTO 5, ONTARIO

For more details circle NED-9859 on enclosed inquiry slip

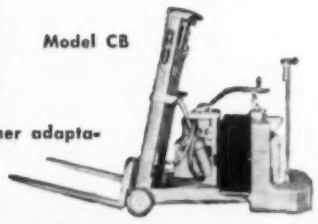
MOTO-TRUC'S 6 *basic models*

QUICKLY ADAPTABLE TO ANY PROBLEM IN THE "WALKIE" FIELD

Moto-Truc's Pallets, Platform or Hi-lift, with all controls incorporated in the hand grip, are simple and easy to operate. They are preferred by operators and maintenance men. All welded construction and that extra power saves time, money and man hours. CUT THAT COSTLY "DOWN-TIME."

A "twist of the wrist" does it.

Model CB



MOTO-TRUC MODEL CB is another adaptation for ramps and inclines. 18-volt motor drive handles loads up to 2,500 lbs. Any type mast available.

WRITE FOR BULLETIN NO. 51 TODAY

MOTO-TRUC THE MOTO-TRUC CO. 1953 E. 59th ST., CLEVELAND 3, OHIO PALLET, PLATFORM AND HI-LIFT TRUCKS

For more details circle NED-9860 on enclosed inquiry slip

WIRE SX PRODUCTS

MAGNET WIRE WITH THE WORKABILITY FOR FAST, LOW COST WINDING

Here's wire of proved workability when subjected to the punishment of modern high speed winding—whether random or layer. It helps insure freedom from broken wires, crossed turns, runbacks, spaced turns and frequent tension adjustments.

Essex Extra Test has the good slip necessary in coil winding. Slides evenly and smoothly in place, resulting in maximum turns in minimum space and in coils that will pack tight. When used for motor armatures, no matter how narrow the slots, Essex extra abrasion resistance reduces rejections.

When you specify Essex Extra-Test Magnet Wire for any winding job you can be sure.

ESSEX WIRE CORPORATION
FORT WAYNE 6, INDIANA

WAREHOUSES* AND SALES OFFICES: *Atlanta, Ga., *Boston, Mass., *Chicago, Ill., Cleveland, Ohio, Dallas, Texas, Dayton, Ohio, Detroit, Mich., Indianapolis, Ind., *Kansas City, Mo., *Los Angeles, Calif., Milwaukee, Wis., *Newark, N.J., Pittsburgh, Pa., *Portland, Ore., Upper Darby, Philadelphia, Pa., *Saint Louis, Mo., *San Diego, Calif., *San Francisco, Calif.

For more details circle NED-9861 on enclosed inquiry slip

NEW! 3 PHASE 60 CYCLE

DRY TYPE AIR COOLED TRANSFORMERS

Less weight per KVA. Class "B" insulation, 80°C temperature rise. No oil nor other coolants. No maintenance nor frequent inspections. Available in 9 KVA through 500 KVA sizes. Write for catalog AC 186.

ACME ELECTRIC CORPORATION
3012 WATER ST. CUBA, NEW YORK

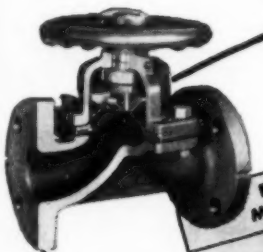
Acme ACME Electric TRANSFORMERS

For more details circle NED-9862 on enclosed inquiry slip

WHAT WOULD YOU SPECIFY

Fluid	Concentration	Temp.	Type of Valve	Valve Material
1 Sulphuric Acid	20%	120 F.		
2 Sulphuric Acid	100%	180 F.		
3 Hydrochloric Acid	32%	80 F.		
4 Hydrofluoric Acid	50%	125 F.		
5 Beer		200 F.		
6 Oxygen		Ambient		

We supplied Grinnell-Saunders Diaphragm Valves with . . .



Body Material	Diaphragm Material
1 Rubber lined	Natural rubber
2 Cast iron	KEL-F
3 Glass lined	Butyl
4 Magnesium	KEL-F
5 Polished bronze	White diaphragm
6 Cast iron*	Neoprene

*For oxygen service a high flash point lubricant is supplied. All valves for oxygen service are subjected to 300 lb. air underwater test.

In several of these cases other body materials or diaphragms might serve. Really important is the versatility of Grinnell-Saunders Diaphragm Valves in handling corrosive fluids, gases, compressed air, food, suspended solids . . . where corrosion, abrasion, contamination, clogging, leakage, maintenance are problems.

Grinnell-Saunders Valve bodies are stocked in cast iron, malleable iron, stainless steel, bronze, and aluminum, with other materials available on special order. Valve bodies can be lined with lead, glass, natural rubber or neoprene. Diaphragms are available of natural rubber and a number of synthetics to suit particular service conditions.

Features of the Grinnell-Saunders Diaphragm Valve

• diaphragm absolutely isolates working parts from fluid • diaphragm lifts high for streamlined flow in either direction • diaphragm presses tight for positive closure • body, lining and diaphragm materials to suit service • simple maintenance — diaphragm easily replaced.

GRINNELL
WHENEVER PIPING IS INVOLVED

Grinnell Company, Inc., Executive Offices, Providence, R. I.
Sales Offices and Warehouses in Principal Cities

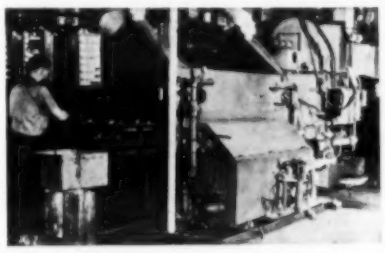
For more details circle NED-9863 on enclosed inquiry slip

TRACTOR WINCH has fast line speeds and braking

Developed for mounting on either seat or fender tank type Caterpillar D4 tractors, this lightweight free-spooling winch has line speeds up to 515 fpm and quick brake action. It performs lifting, pulling, crane work, light pile driving, log skidding and other jobs. Clutch can be adjusted without removing case. Operator guard is standard equipment. Dual lever hydraulic controls can be mounted to left or right side of operator. Maximum evenly spooled cable capacities are ½-in., 335 ft and ⅝-in., 214 ft. Made by **Hyster Co.**, 2906 N. E. Clackamas St., Portland 8, Oreg.

For more details circle NED-9864 on enclosed inquiry slip

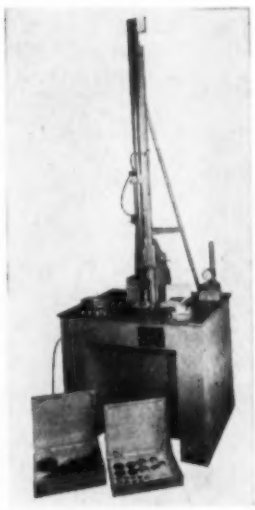
PARTS WASHING MACHINE is steam heated and automatic



Efficient removal of caked buffing compound from polished, vacuum cleaner parts is function of model CT 36 x 10-ft washer. Machine is heated by steam and automatically washes, rinses and dries work, delivering it ready for color buffing. It has production rate of 900 sq ft per hour. Made by **Industrial Washing Machine Corp.**, Dept. E, 292 Burnet St., New Brunswick, N. J.

For more details circle NED-9865 on enclosed inquiry slip

STRAIN TESTERS for rubber, other high elastomers



Selection of additive weights on strain tester for elongation testing of rubber and other high elastomers is accomplished mechanically. Machine uses methods developed by National Bureau of Standards. It has four sets of additive weights, one for each stress range: 50, 100, 200 or 400 psi. Each set consists of 18 weights in two circular trays in machine base, and fixed weight positioned separately below additive weight trays. Strain determined by test is expressed as percentage of original sample gage length under known and constant unit stress. Made by **Scott Testers, Inc.**, 81 Blackstone St., Providence, R. I.

For more details circle NED-9866 on enclosed inquiry slip

LOW COST PROTECTION FOR MAN AND MACHINE

ELASTICONE®
GUIDE PIN COVERS

JUST SNAP INTO PLACE

NO TOOLS REQUIRED

NO INSTALLATION COSTS

Elasticones are manufactured in stock sizes. Specify O. D. of bushing and full open height of set when ordering.

Protects Pins and Bushings from nicks, scratches . . . prevents injuries to Die Setters & Operators. Write for full information.

CENTRAL SAFETY EQUIPMENT COMPANY
2202 E. HUNTINGDON STREET, PHILADELPHIA 25, PA.

For more details circle NED-9867 on enclosed inquiry slip

ever see a conveyor belt with horns?

Textile processors will recognize this unique belt as part of a Bale Breaker . . . the device that rips apart bales of raw fibre for processing. Heretofore, it has consisted of a series of steel spikes mounted on canvas belting. However, the spikes often strike stones, bits of metal or other foreign objects inside the bale, causing sparks that ignite flash fires that burn the belt itself.

Cambridge design engineers solved this problem by attaching metal spikes to a standard *woven wire* conveyor belt. Results: fewer fires because Monel metal spikes reduce sparking, no belt damage or repairs when fires do occur, water from sprinklers will not harm the belt, longer belt life from all-metal construction.

This is a typical example of the many unusual or difficult problems solved by the use of Cambridge woven wire conveyor belts. Cambridge belts can be constructed from any metal or alloy in a wide range of open or closed weaves. For any problem of combining product movement with processing through heat, cold or corrosive agents, rely on the experienced advice of your Cambridge Field Engineer. Write direct or see "Belting-Mechanical" in your Classified Telephone Directory.

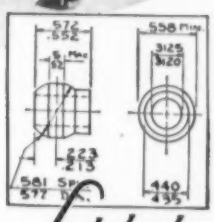
FREE CATALOG gives belt specifications, construction features, engineering data and conveyor design for many plants including food, ceramic, chemical, metalworking and others. WRITE TODAY FOR YOUR COPY of this valuable reference.

The Cambridge Wire Cloth Co.
WIRE CLOTH | METAL CONVEYOR BELTS | SPECIAL METAL FABRICATIONS
Department C
Cambridge 12, Md.

OFFICES IN PRINCIPAL INDUSTRIAL CITIES

For more details circle NED-9868 on enclosed inquiry slip

JOHNSON Self-Aligning BEARINGS REDUCE ASSEMBLY COSTS



Ledaloyl

Johnson Ledaloyl Bearings in numerous self-aligning styles are designed to slip into place and adjust themselves to shaft position. They require no machining, no fitting. They are produced by powder metallurgy and are self-lubricating. Catalog L-5 shows designs of items and lists sizes available from stock.

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Johnson Bronze
580 SOUTH MILL STREET NEW CASTLE, PA.

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the amazing Crayons that tell temperatures

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WELDING
FLAME-CUTTING
TEMPERING
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CASTING
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STRAIGHTENING
HEAT-TREATING
IN GENERAL

$2 each

gives up to 2000 readings

it's this simple:
• Select the **Tempilstik°** for your working temperature.
• Mark your workpiece with it.
• The **Tempilstik°** will leave a liquid mark as soon as its specified temperature is reached.

Available in these temperatures (°F)

113	213	313	450	850	1250	1650
125	225	325	500	900	1300	1700
138	238	338	550	950	1350	1750
150	250	350	600	1000	1400	1800
163	263	363	650	1050	1450	1850
175	275	375	700	1100	1500	1900
188	288	388	750	1150	1550	1950
200	300	400	800	1200	1600	2000

Also available in pellet and liquid form.

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132 W. 22nd St., New York 11, N. Y.

FREE—Tempil° "Basic Guide to Ferrous Metallurgy" —16¼" by 21" plastic-laminated wall chart in color. Send for sample pellets, stating temperature of interest to you.

NAME _____
COMPANY _____
ADDRESS _____

For more details circle NED-9870 on enclosed inquiry slip

Built-in as an inherent part of the product, Klixon Thermo-Snap Controls give you accurate, dependable temperature control. Actuated by the scientifically calibrated Spencer Disc, they open the circuit with a clean break; close the circuit to a solid make. Their accurate, sensitive operation is best able to withstand shock, vibration, altitude or motion. Small and compact, they are easily adapted to your designs. Klixon Thermo-Snap Controls are available in many types and ratings including hermetically-sealed units.

Military and commercial applications include: use as — low-limit and high-limit controls, fuel delay switches, purge switches, temperature controls, fan switches, tube and rectifier cooling controls in products ranging from tanks and aircraft to radio and electronic equipment and household appliances. Investigate Klixon Thermo-Snap Controls for your products. Our engineers will gladly help you with your temperature control problems. Write for their help and information, today.

KLIXON SPENCER THERMOSTAT
Division of Metals & Controls Corp.
1912 FOREST ST., ATTLEBORO, MASS.

For more details circle NED-9871 on enclosed inquiry slip

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ANGULAR INSPECTION SET-UPS

the SINE-PLATE

Now angular inspection set-ups as accurate as the measuring instruments used can be made in a few moments. Any angle, single or compound, is set up by inserting standard gauge blocks between the Sine-Plate plates. Proper size blocks are indicated for all angles in table supplied. Saves hours of set-up time, guarantees accurate inspection. In two sizes; also magnetic models for machining operations.

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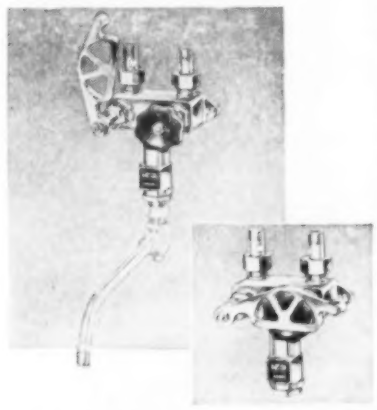
For more details circle NED-9873 on enclosed inquiry slip

STEAM-WATER HEATERS
two models deliver 3.6 and 13. 8 gpm

Fitted with valve arrangement which makes it impossible to turn on steam until water is turned on, Cox direct diffusion steam-water heaters are suited for applications where steam at 50-psi pressure or higher is available. Baby model with ½-in. connections and Junior model with range of five sizes from ¾ to 2 in. are offered. Smaller model delivers 3.6 gpm at 100° F temperature rise at 100-psi steam pressure. The ¾-in. Junior model, rated at 10 gpm, has tested at 13.8 gpm at 100° F temperature rise and 80-psi steam pressure.

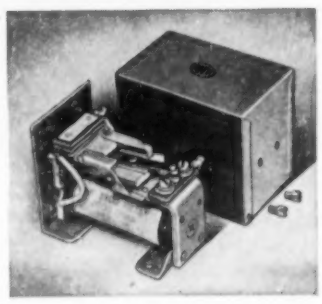


All are manually operated. Distributed by **O'Brien Steam Specialty Co.**, 382 Heffernan Bldg., Syracuse 2, N. Y.

For more details circle NED-9874 on enclosed inquiry slip

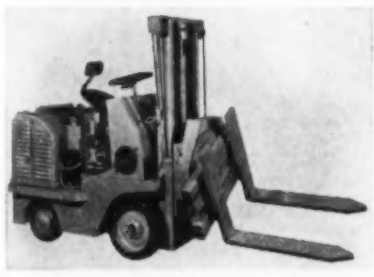
BALANCED ARMATURE RELAY
withstands shock and vibration

Capable of withstanding shock and vibration 20 times that of gravity while maintaining contacts in open or closed position, R-1800 balanced armature relays have contact rating of 5 amp on 110-v, 60-cycle ac. They are single pole, single throw type with double break. Coil is rated at 2000 ohms. Dimensions are 2½ x 2 x 1¼ in. including dust cover, but not terminals. Weight of unit, designed for use in airborne electronic devices, is 7¾ oz. Made by **Auth Electric Co.**, Dept. NED, 34-20 45th St., Long Island City 1, N. Y.



For more details circle NED-9875 on enclosed inquiry slip

FORK TRUCK ATTACHMENT
rotating head dumps skid boxes



Designed for installation on 4000-lb capacity fork trucks, Roll-over-clamp makes it easy to handle pallet loads of material on the forks, dump skid boxes with rotating head and use forks as clamps for handling miscellaneous objects. Fork truck outfitted with this special attachment will handle loads up to 2400 lb and 48 in. long. Illustrated fork truck has telescoping lift to 126 in. and nested height of 83 in. Made by **Baker-Raulang Co.**, Baker Industrial Truck Div., 1245 W. 80th St., Cleveland 2, O.

For more details circle NED-9876 on enclosed inquiry slip

MORE STORAGE in Less Space!

Penco 2 IN 1 STEEL LOCKERS

Penco 2-Person Lockers will double your locker room facilities in the same floor space—or cut non-productive storage space in half! Now—boost employee morale and efficiency—give *all* workers these space-saving, full-size *private* lockers with separate hat and coat compartments.

Group of 3 Type 734 lockers with sanitary slope tops and closed bases. Accommodate 6 persons!

PENN METAL Corporation of Penna.
Founded 1869 by L. Lewis Sagendorph
82 OREGON AVENUE, PHILADELPHIA 48, PA.

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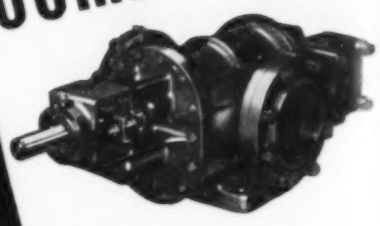
NEW... 300 G.P.M. COMPACT

For Petroleum, Process and General Industries

ROPER 3600 HBRV No. 7 PUMP



Highly efficient venturi suction and discharge principle for smooth flow; deep packing box with lantern ring for effective sealing and long packing life. Case can be fitted for steam heated operation at small extra cost. Ideal for thick viscous liquids. Driven by gasoline engine, geared head motor or power take-off for wide range of applications.

Capacity, 300 G.P.M.

Send for Literature.

ROPER Rotary Pumps
GEO. D. ROPER CORP.
672 Blackhawk Park Avenue
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and, at the same time,
REDUCE Insurance Rates

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and how it watches the watchman! A tamperproof system that keeps a constant check on watchmen's activities. In use all over the world... So effective that users earn reduced insurance rates! The CHICAGO WATCHCLOCK system thereby quickly pays for itself while it gives you protection against fire, theft and sabotage.

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Gentlemen: Send us your folder of details, and prices on the various CHICAGO Watchclock models.

"The first—and still the first!"

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Firm name.....
Street..... City..... State.....

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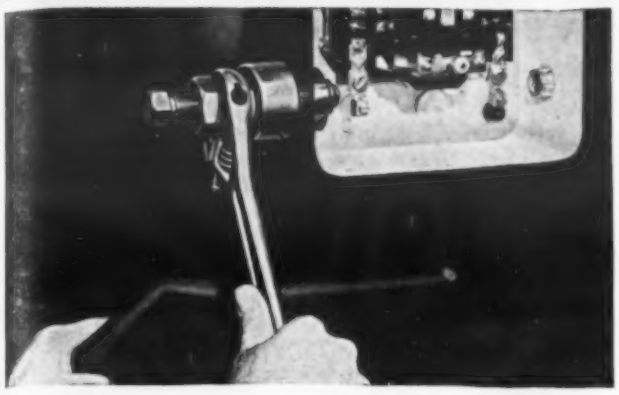


Accurate "clean" openings for conduit easily made in 1½ minutes or less

Speed conduit installations with GREENLEE Knockout Punches and Cutters. Eliminate time-wasting drilling and filing to enlarge holes. Do the job in 1½ minutes or less with these GREENLEE tools that cut smooth holes up to 4" to accommodate conduit in sizes ranging from ½ to 3½". Do the job neater, faster, easier, this way.

TOOLS FOR CRAFTSMEN GREENLEE

GET FACTS TODAY on all four types of Greenlee Knockout Punches and Cutters and HydraRam Hydraulic Knockout Punch Driver. Greenlee Tool Co., 1952 Herbert Ave., Rockford, Illinois

For more details circle NED-9880 on enclosed inquiry slip

PLASTIC MOLDING PRESS offered with electrical control

Small, lightweight Hydrolair 50-ton plastic molding press is available with electrical controls for semiautomatic pushbutton operation. Press takes power entirely from shop air line. It is fast and has continuous high pressure stroke that is automatically applied and maintained, even on compressible materials, once it is selected. Packaged unit is also offered with lever control. Machines are easily installed. Made by **American Steel Foundries,** Elmes Engineering Div., 1150-C Tennessee Ave., Cincinnati 29, O.

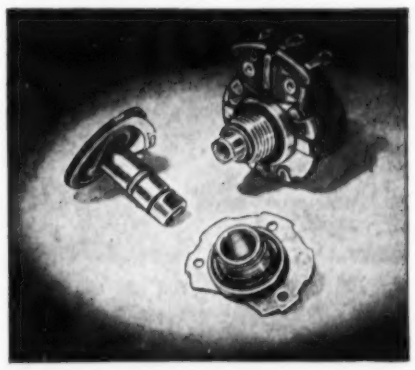
For more details circle NED-9883 on enclosed inquiry slip

ALUMINUM ARM CHAIR seat and back easily adjusted

Featuring strong welded aluminum frame, No. 1033 swivel arm chair has easily adjusted foam rubber seat and back to suit individual comfort. Wide choice of colors in plastic upholstery is offered. Frame is anodized to withstand hard usage in all climates. Scuffless aluminum base is equipped with ball bearing casters molded into base to prevent falling out when chair is lifted. Seat is 22½ in. wide, 19 5/16 in. between arms and 17¼ in. deep. Height from back of seat is 17 in. and seat height from floor can be adjusted between 17 and 20 in. Made by **Emeco Corp.,** Hanover 2, Pa.

For more details circle NED-9884 on enclosed inquiry slip

WATERPROOF CONTROLS withstand 6-ft head of water

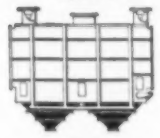


Designed for use in military assemblies, series of waterproof controls is available in wide range of resistances and wattages. Rubber O-ring on shaft creates seal which withstands pressure equivalent to 6-ft head of water. Similar O-ring is used on mounting surface of bushing. Oil and grease resistant rubber compound meets extreme temperature requirements. Made by **Clarostat Mfg. Co.,** Washington St., Dover, N. H.

For more details circle NED-9885 on enclosed inquiry slip

buell KNOWS DUST RECOVERY

Buell (van Tongeren) Cyclone



Buell "SF" Electric Precipitator

Combination Cyclone-Precipitator Unit

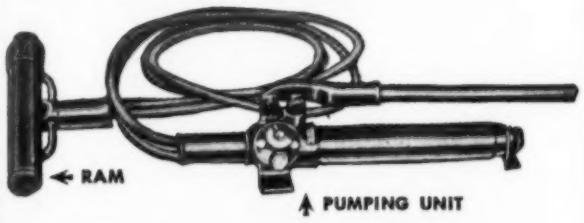
WHENEVER industrial engineers discuss valuable dust recovery, Buell is the big name mentioned. For Buell offers knowledge and capabilities in dust recovery second to none. Only Buell Precipitator recovers ultrafine dust with "Stedi-flow" dust fall — continuous cycle rapping that means constant peak efficiency. Buell large diameter cyclones do not plug, require next to no maintenance. Complete details on both types of equipment are available. Buell Engineering Co., Dept.23L, 70 Pine St., New York 5, N. Y.

buell

Engineered Efficiency in **Dust Recovery**

For more details circle NED-9887 on enclosed inquiry slip

Cut maintenance costs in YOUR plant . . . . .



with a HEIN-WERNER "PUSH and PULL" HYDRAULIC JACK

You can save manpower, time and money at hundreds of maintenance and production jobs with a H-W Push and Pull Hydraulic Jack. In models of 4, 10 or 20 tons capacity, these units offer direct push or pull power for moving, pressing, bending, straightening, lifting and lowering operations. Operated by remote control. Available with stand and press to give you a portable workshop. Get complete details from your H-W distributor, or write us.

Hein-Werner HYDRAULIC JACKS

HEIN-WERNER CORP.
Waukesha, Wisconsin

Also manufacturers of a complete line of hydraulic jacks in models from 1½ to 100 tons capacity.

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IT is easy to buy good industrial brushes. Just specify "OSBORN" and order them automatically from your Industrial Distributor along with other mill supplies. You are sure to get the best in workmanship and materials. Osborn brushing tools are backed by 59 years of service to industry throughout the world.

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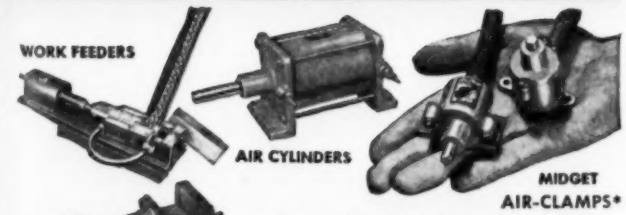

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*PNEUMATIC CYLINDERS

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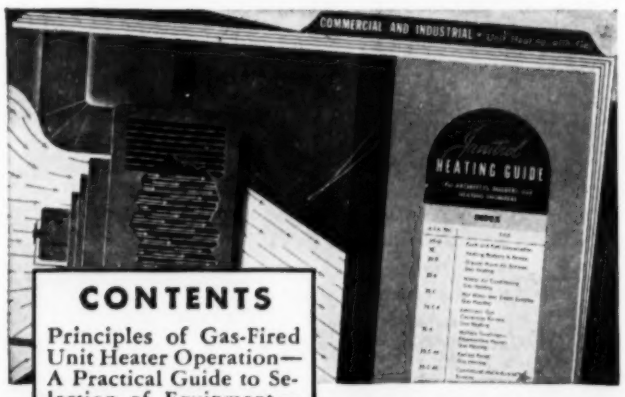
VALUABLE GUIDE ON PRACTICAL USE OF UNIT HEATERS for industrial installations



CONTENTS

Principles of Gas-Fired Unit Heater Operation—A Practical Guide to Selection of Equipment—Typical Floor Plan Layouts for Commercial and Industrial Installations—Use of Automatic Controls — Specifications — Combining Heat with Air Conditioning.

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SURFACE COMBUSTION CORPORATION, DEPT. J, TOLEDO, OHIO

Janitrol GAS-FIRED UNIT HEATERS

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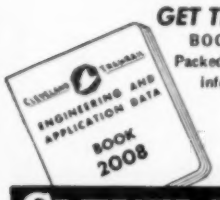
DISTRIBUTE METAL THIS FAST *EFFICIENT* WAY

Efficiency is stepped up tremendously with inexpensive Cleveland Tramrail equipment — often 200% to 300%. Delivery time of metal from cupola to molds is cut drastically. This means less heat loss. Safety is improved and workers' fatigue reduced.



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CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6606 East 285th Street Wickliffe, Ohio

CLEVELAND TRAMRAIL

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What's Your Roll Problem?

Save your time, by sending your roll problem to the roll specialist. Rodney Hunt roll specialists have had 30 years of experience. The chances are they have the answers to your needs. Just phone or write Rodney Hunt and we'll be glad to analyze your roll problem — it's part of our roll service.

RODNEY HUNT

Industrial Roll Division
RODNEY HUNT MACHINE CO.
473 Maple Street Orange, Massachusetts, U.S.A.

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Practical Data on Popular Analyses of Tool Steels, their Selection, Heat Treatment, and Use

in the Revised, Enlarged SIXTEENTH PRINTING of this

TOOL and DIE STEEL HANDBOOK

By Palmer and Luerssen

Here's the BOOK OF ANSWERS for every man responsible for tools and dies. Shows you how to increase your company's production from present equipment—how to reduce toolmaking trial and error, conserve tool steel, avoid die troubles, simplify heat treatment. Gives complete working information on everything from selection of the right steel to heat treating methods and equipment, hardness and toughness testing, latest data on high speed and hot work steels. 564 pages, 355 charts, photos, diagrams give you facts on: how design affects heat treatment, hardenability tests, time required to heat different tools to required hardening and drawing temperatures, furnace atmospheres, quenching, tempering, trouble-shooting.

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Please send me, postpaid, your revised "Tool Steel Simplified". I enclose $2.00 ($2.50 outside U.S.A.) in full payment of the book.
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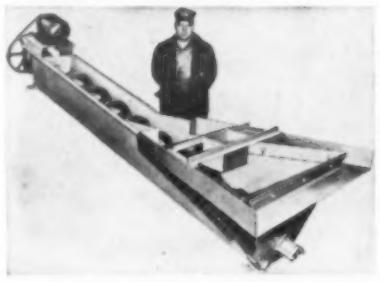
For more details circle NED-9891 on enclosed inquiry slip

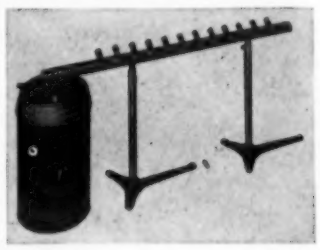
WASHER-DEWATERER processes and conveys bulk material



Requiring minimum floor space and headroom, Pixie small diameter screw conveyor type washer and dewaterer can handle such materials as foundry core sand, silica, salt, nonmetallic minerals and ore. Material is washed, then delivered to stockpile, belt conveyor or chute, free of excess moisture. Contamination flows over three-sided weir which is adjustable for classification of some fine mesh materials. Water or other liquid is introduced through inlets in bottom of tub. Rising current and abrading action of screw loosens and scours practically any material which does not float and is not soluble in water. Made by **Eagle Iron Works**, 129 Holcomb Ave., Des Moines, Iowa.

For more details circle NED-9892 on enclosed inquiry slip

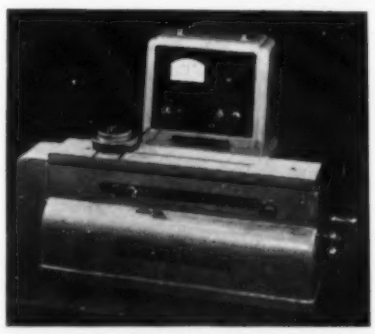
FREEZE-DRYING UNIT for general laboratory work



Suitable for drying cultures and other products in small volume, model 3 freeze-drying unit will serve up to 24 containers simultaneously. Large containers up to 250 milliliters total capacity can also be handled. Unit consists of tank and chrome - plated manifold with 24 outlets and vacuum-insulated condenser bath. It is available with or without vacuum pump and McLeod gage from **F. J. Stokes Machine Co.**, 5900 Tabor Rd., Philadelphia 20, Pa.

For more details circle NED-9893 on enclosed inquiry slip

ELECTRONIC GAGING HEAD checks diameters from 0.37 to 12 in.



Normally used for toolroom or laboratory checking of master and working ring gages, N-6 Internalchek remote electronic gaging head can also be employed on small runs of variety of bore sizes which have close tolerances. Standard dual amplifications are 1000/2000, 300/3000 and 5000/10,000 to 1. Other amplifications are available on special order. Bench type and console machines cover diameters from 0.37 to 12 in. Maximum gaging depth from surface plate to center of diamond point is 1½ in. By turning part over, it is possible to explore holes up to 3 in. deep for diameter, taper, bell mouth or out-of-round condition. Made by **Sheffield Corp.**, 721 Springfield St., Dayton 1, O.

For more details circle NED-9894 on enclosed inquiry slip

TAC does what no other tool can do!

AT LAST! AN OPEN-END RATCHET WRENCH — the world's first true *universal* wrench. A patented design for connections on tubing, rods, piping, conduit, studs, etc. Sixty-four socket sizes from ⅜" to 4". Smallest effective ratcheting arc yet — 5° to 7½°. TAC will also do every job any ordinary ratchet wrench will do: one TAC set replaces literally dozens of single-purpose hand tools.

makers of advanced tools for industry

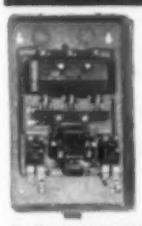
TAC

TAC is the registered trademark of
TUBING APPLIANCE CO.
7112 South Victoria • 10321 Anza Ave. • Los Angeles, Calif.

For more details circle NED-9895 on enclosed inquiry slip

The Sensational New CLARK Type "CY" AC MOTOR STARTER

AVAILABLE IN A WIDE VARIETY OF TYPES AND ENCLOSURES

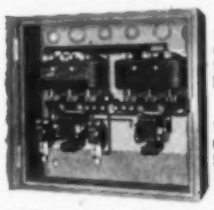


Bulletin 6013 CY2 non-reversing X-line Starter

The superior performance, low maintenance and longer life of the new CLARK Type "CY" can now be applied to almost any machine or operation requiring AC motor starting. A few of the many enclosures are shown here.

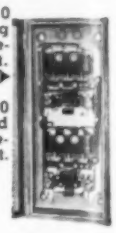
Bulletin 6018 CY2 Combination Starter in Safe-Edge Cabinet.

Bulletin 6020 CY2 Starter with air circuit breaker in Safe-Edge Cabinet.



Bulletin 6050 CY2 Reversing Starter in Safe-Edge Cabinet. →

Bulletin 6030 CY2 Two-Speed Starter in Safe-Edge Cabinet. ←



For every AC motor-starting application, the new CLARK Type "CY" means increased production and less maintenance.

Let a CLARK application engineer demonstrate the many advantages of the new Type "CY" line of AC Magnetic Starters.

THE CLARK CONTROLLER CO.
ENGINEERED ELECTRICAL CONTROL • 1142 EAST 152ND STREET, CLEVELAND 10, OHIO

For more details circle NED-9896 on enclosed inquiry slip

"at last—a valve that fills all our requirements"

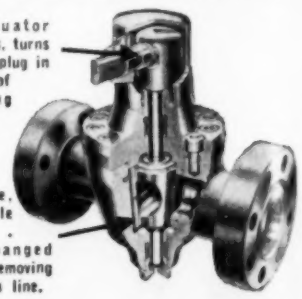
Cameron

NON-LUBRICATED LIFT-PLUG VALVE

These valves are credited with outstanding performance in such extremely severe services as: highly corrosive chemicals (HF and H_2SO_4) in refinery alkylation units; a process plant operating at 1600 degrees F. and at practically absolute vacuum; a producing oil well where it was required to operate daily at 6500 lbs. pressure. Obviously, with a good record on these services, the Cameron Non-Lubricated Lift-Plug Valve fills run-of-the-mill valve requirements in a walk.

The novel mechanical features of this valve include a separate and renewable seat which permits any desired trim for special services and facilitates repairs without removing the valve from the line. Being non-lubricated, it requires no periodic attention and saves maintenance expense. Also, this feature is particularly desirable in a wide range of services, from food processing plants to aviation gasoline refineries, where it is essential to keep valve lubricants out of the line product.

Send today for a copy of the Cameron Valve Catalog. It tells the complete story of this truly remarkable valve.



Plug Actuator which lifts, turns and seats plug in ¾ turn of operating lever.

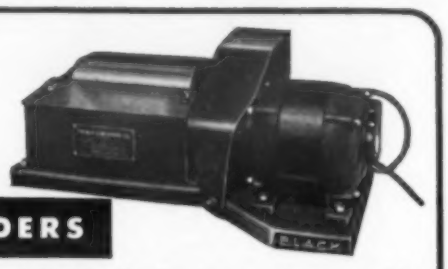
Separate, renewable seat . . . easily changed without removing valve from line.

Cameron IRON WORKS, INC.
P. O. BOX 1212, HOUSTON, TEXAS

Export: 74 Trinity Place, New York, N. Y. Represented in the sterling area by: British Oilfield Equipment Co., Ltd., Duke's Court, St. James's, London S.W.1, Eng.

For more details circle NED-9897 on enclosed inquiry slip

PORTABLE...MOTOR DRIVEN

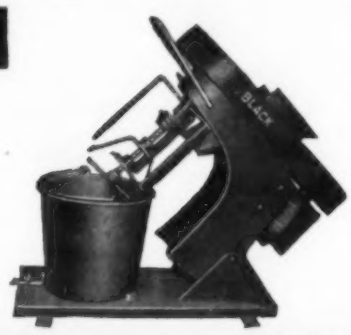


SPREADERS

Made for all kinds of adhesives . . . hot or cold. Applies an even, economical coat. 115 volt AC motor. Floor stand with casters available if desired. Write for Bulletin 11-A.

MIXERS

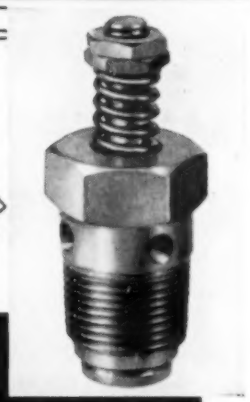
Made in 2, 5, 7½, and 15 gal. sizes. Powder added gradually through oscillating sifter. Arm hinged so that it can be tilted out of the way. Two way agitation. Write today for Bulletin 11-I.



THE BLACK BROTHERS CO., INC.
MENDOTA, ILLINOIS, U. S. A.

For more details circle NED-9898 on enclosed inquiry slip

Protect your closed process vessels for as little as $5.00



WITH THE HONEYWELL VACUUM BREAKER

The discharge of fluid from closed vessels sometimes becomes so rapid that the pressure differential between outside and inside causes collapse. The Honeywell Vacuum Breaker prevents such costly damage by keeping the vacuum within safe limits . . . cheap insurance considering cost of a half inch size is less than $5.00.

Sizes ½" to 3". . . screwed connections . . . spring loaded construction. Made of bronze throughout. Vacuum adjustable from 2 to 24 inches of mercury. Relief Capacity from 3.7 cu. ft. of air per minute for ½ inch size, to 720 cu. ft. per minute for 3 inch size. Prompt shipment from stock. Send in your orders today.

MINNEAPOLIS-HONEYWELL REGULATOR CO., *Industrial Division.* 1912 Windrim Ave., Philadelphia 44, Pa. Offices in more than 80 principal cities of the United States, Canada and throughout the world.

Honeywell VALVE PRODUCTS

For more details circle NED-9899 on enclosed inquiry slip

Protect Your Customers

ALLIS-CHALMERS *Electronic* Metal Detector

. . . from stray metal particles like these →

PRODUCT LIABILITY insurance protects you from obvious losses in damage suits, but doesn't protect your customer or your reputation. Precautions may lessen the problem, but rust particles, hairpins, and steel slivers still get into packaged goods somehow.

The surest way to find hidden stray metal-magnetic or non-magnetic — is with an Allis-Chalmers electronic Metal Detector on your packaging or processing line.

Complete Information

Get 20 page booklet 15B7217A. Numerous schematic sketches show ways of using the Metal Detector to protect processing machinery or insure packaged goods quality. Call your nearby Allis-Chalmers District Office, or write Allis-Chalmers, Milwaukee 1, Wisconsin. A-3333

ALLIS-CHALMERS A-C

For more details circle NED-9900 on enclosed inquiry slip

STORAGE BATTERIES are small in size and weigh about 12 oz each

Equipped with heavy, screw-type terminals designed to carry large currents, line of Silvercel rechargeable storage batteries have extremely high rate of discharge. Group is comprised of model 20 HR-15 capable of 1 to 10 hr discharge at rates of 2 to 15 amp and models 20 HR-GS and 20 HR-BS intended for six minute discharge at rates up to 150 amp.

Measuring overall 4 x 2 x 1¾ in., batteries weigh about 12 oz. Watt hours per kilogram are as high as 54.0 and watt hours per cubic inch as high as 1.30. Units are spillproof and leakproof, do not give off corrosive or poisonous fumes and have high resistance to shocks, vibration and acceleration. They will not boil at high altitudes, will perform at extreme temperatures and can be used in series or parallel operation. Illustration shows ten-penny nail across both terminals glowing with heat just prior to melting. Made by **Yardney Electric Corp.**, Dept. NED, 105 Chambers St., New York 7, N. Y.

For more details circle NED-9901 on enclosed inquiry slip

LIGHTWEIGHT PORTABLE DRILLS air models have capacity up to ¼-in.

Five-vane air motor provides smooth flow of power in series of small, lightweight portable air drills available in several different speeds for work up to ¼-in. capacity.

One-piece housing provides compact, well-balanced assembly. Built-in automatic lubricator and muffler which minimizes exhaust noise are featured, along with palm-fitting handles, solid type rotor and heavy duty ball bearings. Known as OA and OB multivane drills, units weigh from 2⅜ to 3⅛ oz and are offered with two handle styles. Attachments for straight and angle reaming, tapping, wire brushing, sanding, screw and nut running and close-quarter drilling are available. Made by **Ingersoll-Rand Co.**, Dept. PT, 11 Broadway, New York 4, N. Y.

For more details circle NED-9902 on enclosed inquiry slip

DO YOU KNOW? The ninth bi-ennial "Tool Show" to be staged in Chicago's International Amphitheatre from March 17 to 21, 1952 will have 30 per cent more exhibit space than any previous ASTE exposition. Complete information regarding the exposition and the concurrent technical sessions is available from the American Society of Tool Engineers, 10700 Puritan Ave., Detroit 21, Mich.

For more details circle NED-9903 on enclosed inquiry slip

SAFETY EQUIPMENT FOR ALL INDUSTRIES

"FLUD-LITE" MAGNIFIER

Fluorescent Lighting for INSPECTORS, ASSEMBLY WORKERS, TOOLMAKERS, MACHINISTS *And Others Engaged In Close Work*

Floodlights the work area with scientifically focused, shadow-free fluorescent light, magnifying the work through a high quality 5" diameter lens with a focal distance of 13". Magnification two to one. Also available with auxiliary lens providing four to one magnification.

Write for Bulletin L-121

IPCO *Safety Equipment for all Industries*
INDUSTRIAL PRODUCTS COMPANY
2807 N. FOURTH STREET · PHILADELPHIA 33, PA.

For more details circle NED-9904 on enclosed inquiry slip

When heavy, unwieldy weldments like these diesel crank cases can be quickly swung into any position so that every weld is made downhand—that's efficient welding.

Welders spend more time welding—do better welding at lower cost when they work with C-F Positioners because these hand and/or power operated machines reduce positioning time to a minimum. Investigate the cost saving advantages of C-F Positioners. They pay their way in any company.

Write for Bulletin WP 24—an illustrated circular detailing the Specific Advantages of C-F Positioners.

CULLEN-FRIESTEDT CO.
1304 S. Kilbourn Chicago 23, Ill.

For more details circle NED-9905 on enclosed inquiry slip

we've built a GIANT

. . . to produce high vacuum in bigger chambers—at less cost—than ever before

SAY you're producing one of the modern metals that has wonderful properties but can't stand oxygen at high temperatures. Or maybe your problem is a large wind tunnel, a synchro-cyclotron, or a vacuum dehydration chamber for biologicals.

You want to push out into the atmosphere as much air or gas as possible at the lowest cost. You may need to exhaust down to 1/2000th of atmospheric pressure or as low as 1/75,000th of an atmosphere.

DPi now supplies a series of non-mechanical pumps which can operate in this pressure range at rates well over 10,000 cubic feet per minute, compressing air and gas to the point where mechanical pumping becomes highly efficient—to pressures as high as 10 mm Hg where needed.

If you will tell us your vacuum pumping requirements, we'll be glad to show you how these unique oil ejector pumps make possible a new order of operating economy for large high vacuum systems. Write *Distillation Products Industries,* Vacuum Equipment Department, 763 Ridge Road West, Rochester 3, N. Y. (Division of Eastman Kodak Company).

DPi **high vacuum research and engineering**

Also . . . vitamins A and E . . . distilled monoglycerides . . . more than 3400 Eastman Organic Chemicals for science and industry

For more details circle NED-9906 on enclosed inquiry slip

A MULTI PURPOSE WORK HOLDING and POSITIONING TOOL Made Specially for WELDING

No. 37A Twinner Vise and Angle Plates

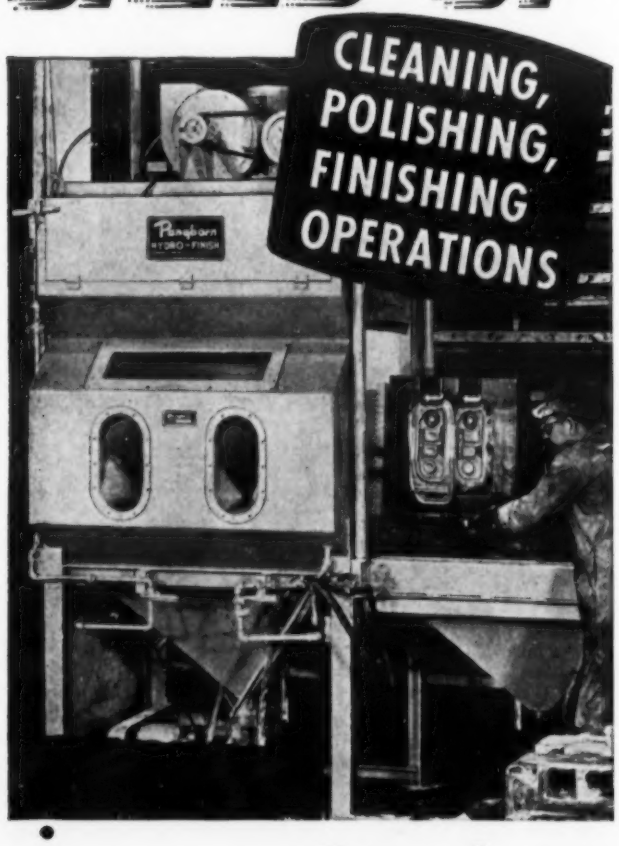
Fitted with four standard No. 3 size vises and 24" top plates this tool provides a holding jig and positioner for thousands of welding jobs.

Reduces set-up time, helps the welder do more accurate work. Saves the expense of special jigs.

THE EDMANDS CO., 228 Aborn St., Providence 3, R. I.

For more details circle **NED-9907** on enclosed inquiry slip

SPEED UP



Pangborn

Hydro-Finish is versatile! Use it to speed up cleaning, polishing and finishing of molds and dies as well as production line work.

Hydro-Finish saves you time, labor and money. Scale and discoloration are removed in *minutes* instead of hours. Cleaned surfaces are virtually free of directional grinding lines. Costly hand work is greatly reduced. No danger of excessive metal removal because tolerances are held to .0001". Fine mesh abrasives suspended in water do a precision job.

Find out how Pangborn Hydro-Finish improves product quality, increases tool and die life! For full details, write today for Bulletin 1400A to: PANGBORN CORPORATION, 2400 Pangborn Blvd., Hagerstown, Md.

Look to Pangborn for the latest developments in Blast Cleaning and Dust Control equipment.

Pangborn

BLAST CLEANS CHEAPER with the right equipment for every job

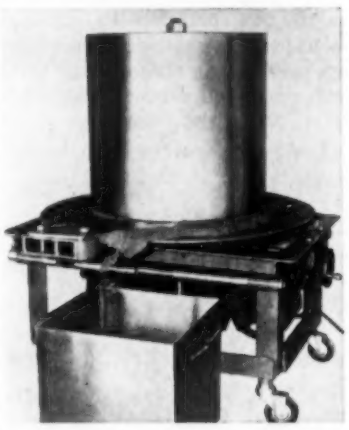
For more details circle **NED-9908** on enclosed inquiry slip

DRUM SANDERS use coated abrasives in strip form

Cushion type split drum on Cone-Loc sander makes use of coated abrasive strips. Two sander halves are locked together by cone when arbor nut is tightened. Backing flange, an integral part of tool, assures strong and balanced abrasive drum. Polishing wheel is face-ground at high operating speeds for smooth operation. Made by **American Diamond Saw Sales Co.**, Room 224, 519 N. W. Park Ave., Portland 9, Oreg.

For more details circle **NED-9909** on enclosed inquiry slip

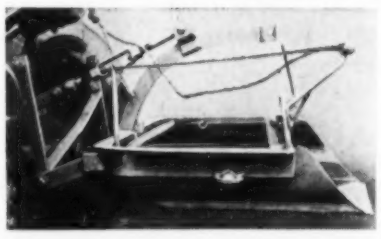
BIN FEEDER moves products not free-flowing



Used as combination storage bin or surge bin and feeder, Com-Bin feeder can handle and feed most sticky mastic or plastic-like materials that are not free-flowing due to high moisture or oil content. Rate of material discharge is constant and uniform and can be varied by thickness of plow in unit, distance which plow extends into shell and speed at which entire feeder revolves. Feeders are available in range of sizes from 5 to 10 lb to 40 or 50 tons. Feed rates vary from few pounds to 50 tons per hour. Carbon steel, corrosion resistant alloy or plastic construction is available. Made by **Pulva Corp.**, 553 High St., Perth Amboy, N. J.

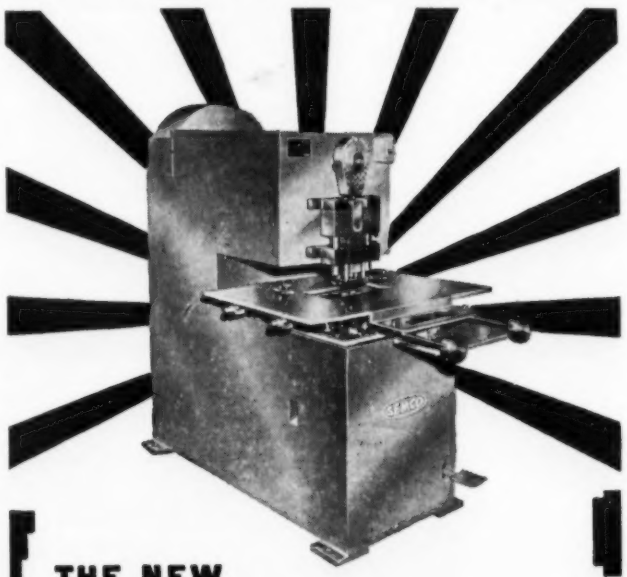
For more details circle **NED-9910** on enclosed inquiry slip

TRACTOR MOUNTED SCOOP reversed rapidly for use as shovel



Hydro-Scoop for use on Ferguson, Ford, Case (with Eagle hitch), International C, H, M and Super A, Allis-Chalmers WD, Massey-Harris 22, 30 and 44 and John Deere A and B tractors reverses rapidly for operation as pushed shovel without loose attachments. Two or three minutes is required to remove three pins, turn scoop around and replace pins. Hydraulically operated, scoop digs, shovels, lifts, carries, dumps and levels. In either pushed or pulled position it will move earth and most bulk materials. Made by **Stockland Road Machinery Co.**, 2666 34th Ave. S., Minneapolis, Minn.

For more details circle **NED-9911** on enclosed inquiry slip



THE NEW SEMCO NIBBLER PRESS

PUNCHES HOLES ANY SHAPE — ANY SIZE UP TO 12" X 4½" AT ONE SETTING.

NO SPECIAL DIES ARE NEEDED

Write for latest literature, prices and information to—

SERVICE MACHINE COMPANY
INCORPORATED
202 MILLER STREET, ELIZABETH, N. J.

For more details circle **NED-9912** on enclosed inquiry slip

Fastener Problems? ESNA gives you over 3000 answers!

THE FAMOUS RED ELASTIC COLLAR IS VISIBLE EVIDENCE OF LOCKING SECURITY

Threadless and permanently elastic, it provides these 4 outstanding features:

1. Protects against nuts loosening due to VIBRATION
2. Keeps locking threads CORROSION FREE
3. Provides for accurate BOLT LOADING
4. Seals against LIQUID LEAKAGE along the bolt threads

When you design new products, look to ESNA for vibration-proof answers to your fastening problems. Plan now to give your assemblies—and your customers—the self-locking protection provided by Elastic Stop Nuts.

Let the readily identified Red Elastic Collar tell users this story about your products: that fastenings will remain tight... that precise adjustments will hold true... and that *your* investment in quality fasteners will reduce *their* maintenance costs.

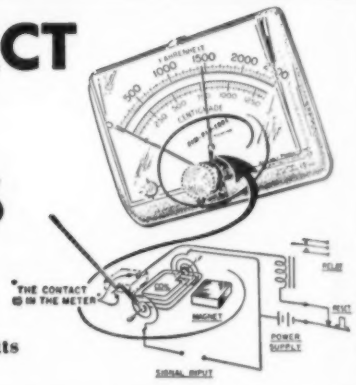
And, to simplify your assembly operations, you'll find there are over 3000 various sizes and types of Elastic Stop Nuts ready to cut manufacturing costs. Standard parts are available that may be clinched to sheet metal... press fit... or pre-positioned by riveting or welding.

GET FREE ESNA PRODUCT LINE BULLETIN—Get a head start on tomorrow's new product designs by bringing yourself up to date on the latest fastening devices. Write ESNA for helpful data or the name of their nearest engineer. Elastic Stop Nut Corporation of America, 2330 Vauxhall Road, Union, N. J.

ESNA ELASTIC STOP NUTS

For more details circle **NED-9913** on enclosed inquiry slip

CONTACT METER RELAYS



sensitive to

.000,000,002 watts

Simplytrol Contact Meter-Relays make Automatic Control economical for many uses where it was impractical before.

Sensitive to changes of less than 1% of the scale range, these precision relays may be used in any circuit where an ordinary meter might be used. They have a full 90° of scale arc. The contact point is fully adjustable from the front and it may be set to any point on the scale.

Simplytrols exclusive Micro-Contacts assure instantaneous circuit closing with high contact pressure and a clean, positive break. Uses include Automatic Control of Temperature, Speed, etc., Over- & Under-Control of Voltage, Current, etc., Automatic Inspection.

Simplytrols are available in many ranges from 0-20 Microamperes and up, AC and DC, and in Pyrometer ranges to 3000°F. Prices run from $25.90 to $85.00. Send for Bulletin CMR-9 with suggested circuits and technical description.

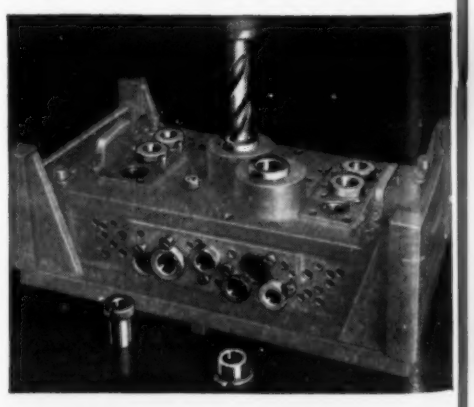
Assembly Products, Inc.

Chagrin Falls 12, Ohio, Phone CH 7-7374

For more details circle **NED-9914** on enclosed inquiry slip

EX-CELL-O BUSHINGS

On the Job!



Shown above is a jig illustrating the use of Ex-Cell-O Drill Jig Bushings. Note the various types—headless press fit, head type press fit, and slip renewable bushings—three of the many types carried in stock and described and pictured in Ex-Cell-O's bushing catalog—yours for the asking—Bulletin 35371.

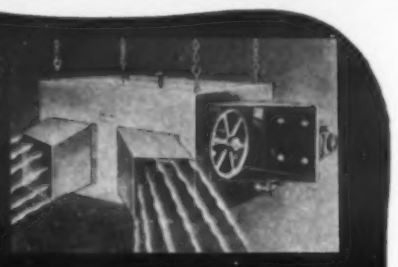
XLO EX-CELL-O for PRECISION

51-29

EX-CELL-O CORPORATION
DETROIT 32, MICHIGAN

For more details circle **NED-9915** on enclosed inquiry slip

HERE'S YOUR ANSWER TO LARGE AREA SPACE HEATING!



CHROMALOX Blower Type UNIT HEATERS

FOR HEAVY-DUTY HEATING IN FACTORIES, WAREHOUSES, OFFICES

Ceiling mounted CHROMALOX Electric Blower-Type Heaters are your quick, easy answer to space heating! Twin centrifugal fans, driven by a 3-phase motor, distribute warmth evenly over large areas. Air ducts can be used to convey heated air to desired locations. Automatic thermal cutout assures protection against overheating. 51,180 to 136,480 BTU output per hour.

HAVE A HEATING PROBLEM OF ANY KIND?

Then write for Catalog 50. It's loaded with information on many of the 15,000 types, sizes and ratings of Chromalox Heating Units and Equipment.

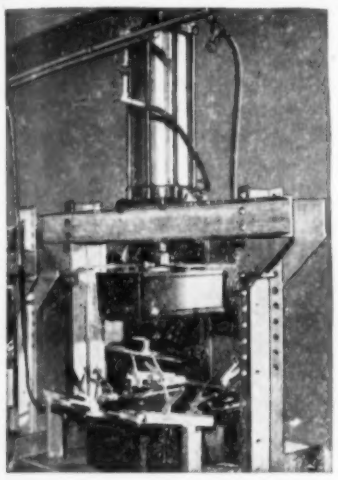
EDWIN L. WIEGAND CO., 7509 THOMAS BLVD., PITTSBURGH 8, PA.

See other advertisement on page 4

CHROMALOX

ELECTRIC HEAT FOR MODERN INDUSTRY

▲ For more details circle NED-9916 on enclosed inquiry slip ▲



"Never a Moment's Delay ...since first installed in 1945"

Regal Plastic Co., Kansas City, Mo., installed NOPAK Valves and Cylinders on a battery of presses used in draw-forming sheet plastics. They report that this NOPAK equipment "has never caused a moment's delay in production since first installed".

The chief requirements of this application are medium power combined with flexibility in set-up and in stroke length. Downstroke, controlled at varying speeds, is followed by a dwell of 1 to 20 minutes and careful withdrawal of the punch from the finished part.

NOPAK Air-Cylinder Power has provided the required versatility in that set-ups can be changed quickly, and fast application or release of pressure is easily accomplished.

GALLAND-HENNING MFG. CO., 2755 S. 31st Street, Milwaukee 46, Wis.

Write for Bulletin SW-1, or refer to Sweet's File for Product Designers.

Representatives in Principal Cities

NOPAK VALVES AND CYLINDERS DESIGNED for AIR and HYDRAULIC SERVICE

A 6004-1/9AA

▲ For more details circle NED-9917 on enclosed inquiry slip ▲

GOOD.....FOR ALL PRESSURES

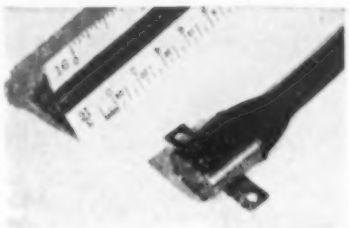
Yarway Impulse Steam Traps are suitable for any pressure up to specified maximum *without change of valve or seat.* Types available up to 1500 lbs. Simplifies installation and maintenance. Over 650,000 Yarway Traps already *proved on the job.* Sold by over 200 distributors. Bulletin T—1740 free.

YARWAY Impulse Steam Trap

YARNALL-WARING CO. 131 MERMAID AVENUE, PHILA. 18, PA.

▲ For more details circle NED-9918 on enclosed inquiry slip ▲

BIMETAL STRIP THERMOSTATS usable in low wattage circuits



Designed for applications in which moisture or other severe conditions are encountered, type CH100 bimetal strip thermostats are hermetically sealed in CR-7 crystal can with terminals and leads covered by molded neoprene. For high temperature applications, silicone rubber can be used in place of neoprene. General uses include low wattage circuits where precise thermal control is necessary. Thermostats can also be made in alarm type, a double-unit precalibrated to close circuit at both a maximum and minimum temperature. Precalibration at factory is for any range from maximum of 400° F to as low as −60° F. Made by **Stevens Mfg. Co.,** Dept. B, 69 S. Walnut St., Mansfield, O.

▲ For more details circle NED-9919 on enclosed inquiry slip ▲

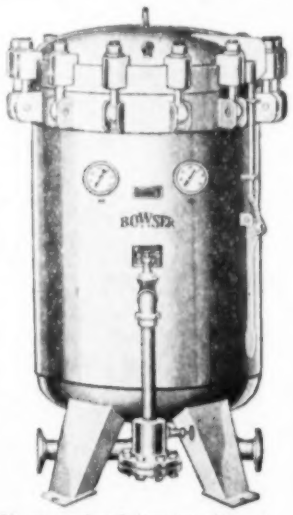
STEAM PIPE UNION made of seamless and forged steel

Listed by Underwriters' Laboratories for all piping applications, this 300 psi steam pipe union can also be used in handling hazardous liquids, cold water, oil and gas in nonshock installations up to 2000 psi. It is supplied in rust resistant black finish and zinc coated. All unions have brass-to-steel ground joint seat. Sizes available are ½ to 2 in. Made by **Capitol Mfg. & Supply Co.,** 155 W. Fulton St., Columbus 16, O.

▲ For more details circle NED-9920 on enclosed inquiry slip ▲

LIQUID FUEL DEHYDRATOR reduces carbon and corrosion

Liquid fuel is dehydrated by this unit in which fuel passes through elements consisting of wound cellulose cylinders, treated coalescing media, perforated metal and glass cloth. Internal combustion engines using unit have increased combustion efficiency, reduced carbon formation and less corrosion of working parts. Unit itself has no moving parts and will function indefinitely. Capacities of 350 and 600 gpm are available for maximum working pressure of 125 psi. If possibility of large volumes of water exists, hydraulically balanced automatic ejector is available as accessory. Made by **Bowser, Inc.,** 1391 E. Creighton Ave., Ft. Wayne 2, Ind.



▲ For more details circle NED-9921 on enclosed inquiry slip ▲

Make Your Glove Dollars Increase Production

PIONEER Stanzoils®

PIONEER's new Stanzoil catalog shows you how to buy the right glove for each job at the lowest per hour cost. Price buying alone is false economy — no *one* glove is suitable for *all* uses. It pays to buy for utmost protection from injury *plus* hand and finger dexterity that mean faster work. New Stanzoil catalog gives you an easy method of efficient selection. *Pioneer recommendations are unbiased — we make all kinds of liquid-tight gloves,* all-neoprene, neoprene or plastic coated, 32 styles, weights, sizes, colors. Pleased workers and no work stoppages are vital these days — write today for this helpful catalog.

R-17 Extra-Duty Pioneer Stanzoil, red neoprene coated fabric, non-slip grip, curved fingers, pre-flex palm and inserted thumb design.

Industrial Glove Division

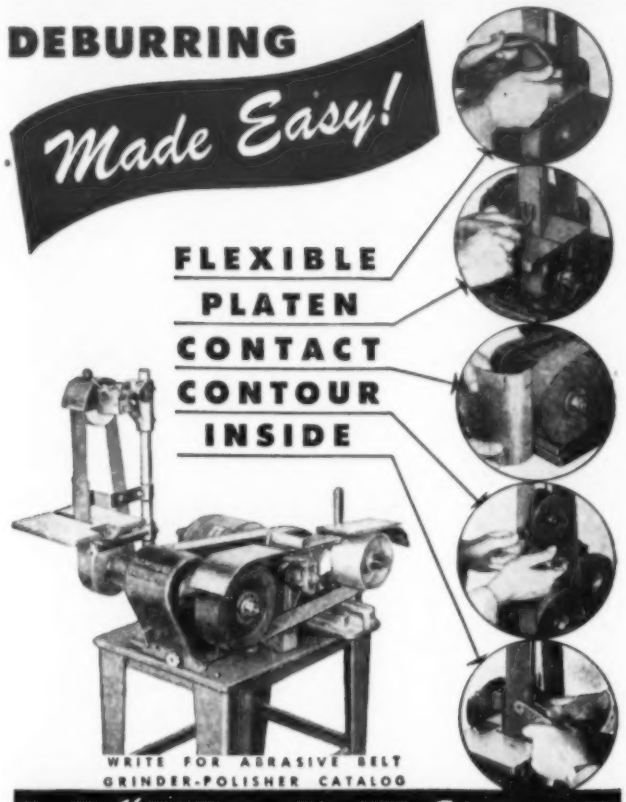
The PIONEER Rubber Company
634 Tiffin Road • Willard, Ohio

STANZOIL PIONEER

OVER 30 Years OF QUALITY GLOVE MAKING

▲ For more details circle NED-9922 on enclosed inquiry slip ▲

DEBURRING Made Easy!



WRITE FOR ABRASIVE BELT GRINDER-POLISHER CATALOG

Hammond Machinery Builders INC.

1623 DOUGLAS AVENUE • KALAMAZOO MICHIGAN

▲ For more details circle NED-9923 on enclosed inquiry slip ▲

B.F.Goodrich

Let this man analyze your Industrial Tires and Wheels

THIS man represents *your* local B.F.Goodrich dealer. He and *all* BFG representatives want to offer this service to you. They have been specially trained to analyze your industrial tire and wheel operations and to make impartial recommendations regarding size, type, care and maintenance. These recommendations are valuable to you. In many cases, industrial tire life has been increased as much as 100%! The recommendations this TW man makes are impartial because *only* B. F. Goodrich has a *complete* line of solids, semi-pneumatics and pneumatics in a wide range of sizes.

Call your local BFG representative today. Let him survey your operation . . . study loads, hauls, equipment, floors and hauling surfaces. Then let him offer his suggestions. Extra service from your industrial tires is yours for the asking.

A similar program is available for the manufacturers of industrial hauling equipment.

Write for full details of the TW TIRE AND WHEEL ANALYSIS PLAN

The B. F. Goodrich Co.
Department TW-147
Akron, Ohio

Please give me additional information on your new Tire and Wheel Analysis plan.

Name_____
Title_____
Company_____
City_____ State_____

RESEARCH KEEPS B.F.Goodrich FIRST IN RUBBER

▲ For more details circle NED-9924 on enclosed inquiry slip ▲

Battery of Syntron Feeders in refractory feeding clays from storage bins into divided chutes leading to three belt conveyors. Feeders are completely automatic and electrically interlocked with other equipment.

SYNTRON

"Pulsating Magnet"

VIBRATORY FEEDERS

With Variable Control of Rate of Flow

WILL HANDLE most all types of bulk materials—fine, lumpy, hot, cold, dry, damp, AT variably controlled rates from pounds to hundreds of tons per hour. TO mixers, belts, grinders, screens, ovens, driers, blenders, etc. WITH exceptionally low maintenance costs due to absence of motors, pulleys, eccentrics, cams and other wearing parts.

Write to—

SYNTRON CO.
405 Lexington Ave. Homer City, Pa.

For more details circle NED-9925 on enclosed inquiry slip

It's Not the Part
But the Part You Need
and Don't Have!
That Costs You Money

GET IT FROM CAMCAR

SPECIALS • AIRCRAFT
SEMS • THREAD-CUTTERS
PHILLIPS HEAD SCREWS
HEX HEAD SHEET METAL SCREWS

IN ALL COLD-HEADING MATERIALS

Why pay the cost of production hold-ups, idle machine time and lost man-hours, due to lack of *special metal parts* or *fasteners*?

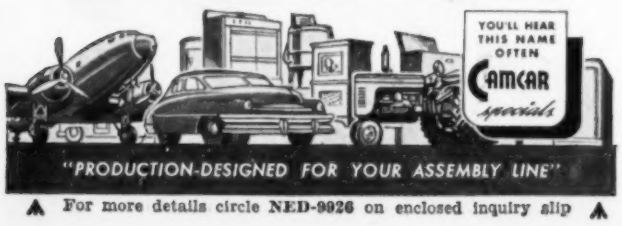
There's never a need to say, "Our Line is Down", when Camcar Specialists set up to supply these parts for high-volume assembly operations. Supply is their business — to see that you have these parts when you need them — made right — and to save you money.

Send blueprints, drawings, samples or your order to Camcar today and ask us to show you how you, too, can be sure of continuous assembly supply.

Don't be without parts. Get them from Camcar.

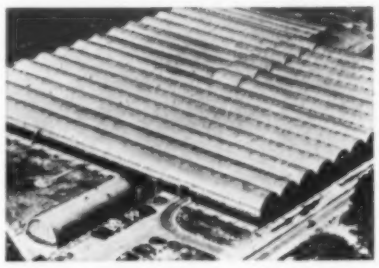
Telephone 5-9451 or Teletype RK-53

CAMCAR SCREW & MFG. CORP.
601 EIGHTEENTH AVENUE ROCKFORD, ILLINOIS



For more details circle NED-9926 on enclosed inquiry slip

PREFABRICATED BUILDING
wide range of sizes can be erected to meet most industrial needs



Suitable for most industrial and commercial requirements, Quonset Long-Span prefabricated buildings are framed with Stran-Steel members made from cold-formed strip steel. Interior columns are 40 ft apart along building's depth and 35½ ft apart across its width. This provides clear-span space adequate for manufacturing and warehousing. Straight side walls are employed, and building can be ordered with standard doors or equipped in the field with overhead or special doors as required.

Clearance under trusses can be 15 or 18 ft, and roof arch provides unobstructed dome height of 25 or 28 ft above floor, which is ample for installation of boilers, furnaces, kilns or similar large equipment. These prefabricated buildings can be delivered and erected economically at any location. Made by **Great Lakes Steel Corp.**, Stran-Steel Div., 54 Tecumseh Rd., Ecorse 29, Mich.

For more details circle NED-9927 on enclosed inquiry slip

ELECTRIC CORD SET
incorporates grounding plug

Grounding plug employed in this 8-ft electric cord set meets new NEMA standards. Round pin that provides positive third-wire grounding is an integral part of molded-on type plug and requires no secondary operation of attaching grounding lead or strap. Contacts are heavy-duty tinned solid brass and conductors are No. 16 AWG, stripped for ease of installation. Jacket is ribbed-finish 3/16-in. type SJ rubber. Made by **General Electric Co.**, Construction Materials Dept., 1285 Boston Ave., Bridgeport 2, Conn.

For more details circle NED-9928 on enclosed inquiry slip

DO YOU KNOW? Once considered an old world luxury, Philippine mahogany paneling is now available in a handy install-it-yourself package. Ten panels of beautifully veneered prefinished Philippine mahogany Plankweld, together with invisible steel clips for easy installation are offered for $49.50. Occasional re-waxing is all that is needed to maintain the beauty of this paneling. Made by United States Plywood Corp., 55 W. 44th St., New York 18, N. Y.

For more details circle NED-9929 on enclosed inquiry slip

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ENGINEERS

We're looking for engineers whose prime responsibility is to seek ways and means to make products or parts better, more efficient and at lower cost. To you, we recommend Taylor Laminated Plastics.

If your company makes its own parts, consider Taylor Vulcanized Fibre, Phenol Fibre and Special Laminates, available in sheets, tubes, rods, strips and coils. If you are looking for a dependable source of supply for parts fabricated to your own specifications, Taylor's Fabricating Service is equipped to turn out precision-made parts having the physical, electrical and mechanical characteristics you require.

Write today for further facts, samples and a copy of the new Taylor Catalog ND-12.

Taylor
TAYLOR FIBRE CO.
NORRISTOWN, PENNSYLVANIA
LA VERNE, CALIFORNIA

For more details circle NED-9930 on enclosed inquiry slip

There are more TRABON Automatic Lubricating Systems in operation than all other makes!

We Sell Lubrication...

● Which means Trabon customers get a lubricating system that—day after day and year after year—properly lubricates bearings, with a minimum of down time and maintenance.

No shutdowns due to bearing failure—no work stoppage for lubrication . . . Trabon lubricates as your machines produce . . . delivers the right amount of lubricant to each bearing.

Repeat orders prove the merit of Trabon. Trabon Lubricating Systems are your insurance against costly down time and lost production.

Trabon
OIL AND GREASE SYSTEMS

TRABON ENGINEERING CORP.
1814 East 40th Street
Cleveland 3, Ohio

For more details circle NED-9931 on enclosed inquiry slip

Standard models available in capacities from 200 lbs. x 6" wide to 15,000 lbs. x 48" wide.

IS YOUR SHOP CROWDED?

ROWE "Easy Load" AUTOMATIC
COIL CRADLES

Designed to use an absolute minimum of floor space in handling coils to your press operation.

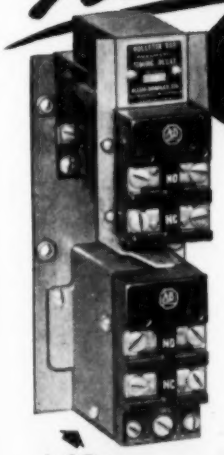
★4 Power-driven rolls and instant width adjustment.

★Write today for literature and name of nearest distributor.

ROWE MACHINERY & MANUFACTURING CO., INC.
1506 N. INDUSTRIAL BLVD., DALLAS, TEXAS

For more details circle NED-9932 on enclosed inquiry slip

New... BULLETIN 849
PNEUMATIC
TIMING RELAY



A-C Timer with Auxiliary Contacts
D-C Timer

Good for Millions of Operations

● For "dash up" or "dash down" operation

● Available for NEMA Type 1, 4, 7, and 9 applications

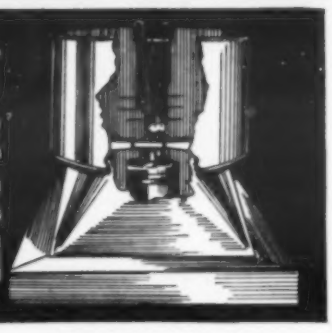
This new, compact, solenoid type, pneumatic timing relay utilizes a synthetic rubber bellows for controlling the tripping time. Has a range of from 10 cycles to 3 minutes, and an accuracy of approximately 10%. Its setting is easily adjustable over a wide range, and the relay resets instantaneously. This timer will provide satisfactory operation irrespective of temperature, humidity, or vibration conditions. Write for information. Allen-Bradley Co., 1334 S. Second St., Milwaukee 4, Wis.

A-B Quality

ALLEN-BRADLEY
QUALITY
MOTOR CONTROL

For more details circle NED-9933 on enclosed inquiry slip

DON'T LET FOUL AIR FOUL UP YOUR PRODUCTION



Automatic Roof Ventilator
Propeller Pitch Adjustable
Balanced Damper Flaps

Eliminating foul air is our JOB. Industrial Air manufactures fans and ventilating equipment to fit your specifications and JOB needs. Available in all sizes, from 14" through 72" in diameter, belt or direct driven operation.

Duct Fans
Direct or Belt Driven
Utility Man Cooler
Portable Man Cooler
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Duct Type Fan
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Represented in All Principal Cities
Write Dept. 1201 for complete catalog

THE HARVEY P. BERTRAM CO.
1008 W. Ninth St. • Cincinnati, Ohio

For more details circle NED-9934 on enclosed inquiry slip

Strongest

in every size

Each size of Worthington QD sheaves is designed for the load it has to carry—rather than proportioned from one basic design.

I-beam spokes on driven sheave help carry heavier load with less sheave weight.

Give your men the convenience of QD's exclusive two-part taper-mated cone-grip construction and long pull-up bolts—easy to get on, easy to get off, yet always tight on the shaft. And give your drives the strength of QD's sized-for-load designs, locked shaft key and stronger I-beam spokes.

Write for Bulletin B-1400-B7F. Worthington Pump and Machinery Corporation, Multi-V-Drive Sales Division, Buffalo, N. Y.

WORTHINGTON

MV.1.6

For more details circle NED-9935 on enclosed inquiry slip

Serving BEYOND THE CALL OF DUTY

Proved and re-proved for a third-of-a-century in industry's most grueling installations, Shafer Bearings have consistently demonstrated the superiority of ConCaVex design.

For, only Shafers give everything it takes for superior performance: Integral self-alignment • Full radial-thrust capacity • Exceptional shock load capacity • *Exclusive* Micro-Lock Bearing Adjustment • *Exclusive* self-centering, dirt-repelling "Z" Housing Seal.

Write for Industrial Catalog No. 51 today! Engineering counsel without obligation.

SHAFER CONCAVEX

SHAFER BEARING CORPORATION
801 Burlington Ave., Downers Grove, Illinois

Mounted Bearings in All Conventional Types • Unmounted Bearings • Aircraft Control Bearings

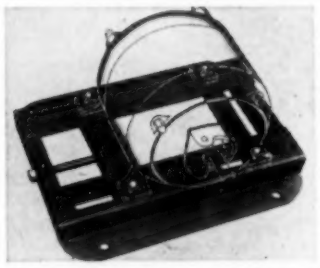
For more details circle NED-9936 on enclosed inquiry slip

STANDBY GENERATOR operated by tractor power take-off

In event of electric power line service interruption, Economy model alternating current Power Insurance stand-by generator can be put in service in few minutes. After connecting to tractor power take-off, unit can furnish continuous power for electric pumps, lights, refrigeration equipment, automatic furnaces and other equipment. Normal output is either 115 or 230 v, 3000 w. Starting load capacity of 5000 w can also be utilized for intermittent uses, such as operating welding equipment. Voltage is maintained within close limits between no load and full load. Made by **Wincharger Corp.**, 2101 E. Seventh St., Sioux City 2, Iowa.

For more details circle NED-9937 on enclosed inquiry slip

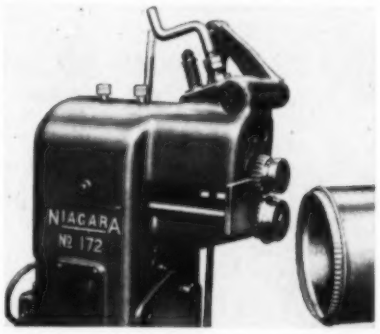
ELECTRIC MOTOR BASE fits frame sizes 203 to 505



Adjustment of belt tension on these steel slide bases for electric motors is obtained by turning long adjusting screw. Bases will fit standard NEMA motor frame sizes 203 to 505. Each is furnished with adjusting screw and nuts and bolts for attaching motor to base. Square shoulders of bolts prevent turning when nuts are being tightened. Made by **Overly-Hautz Co.**, 11502 Madison Ave., Cleveland 2, O.

For more details circle NED-9938 on enclosed inquiry slip

COLLAR EDGING ROLLS aid fabrication of sheet metal pipe



Round sheet metal pipe is prepared for joining with a flat sheet by these collar edging rolls for use on No. 164 universal rotary machine which handles up to 24-gage mild steel and No. 172 electric combination machine which handles maximum of 20-gage stock. Contour of rolls raises a substantial bead above surface of pipe and simultaneously crimps the edge so that it is smaller than the pipe diameter. Crimped side of bead is flat to provide good seat, and crimped edge can be peened over to form a tight joint with the sheet. Made by **Niagara Machine & Tool Works**, Northland Ave. & Chelsea St., Buffalo 11, N. Y.

For more details circle NED-9939 on enclosed inquiry slip

CUT COSTS . . . SPEED PRODUCTION

BRADY STOCK
QUIK-MASKS®
MOUNTED ON CARDS for
• PAINTING • PLATING
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Protect machined parts, name plates, holes, threads, designs, etc., during finishing operations. Eliminate slow, costly hand cutting of masks and stencils.

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PIPE MARKERS
SAFETY SIGNS
PRINTED -SCOTCH-TAPE
MASKS & STENCILS

MANUFACTURERS OF SELF-STICKING PRODUCTS
W.H. BRADY COMPANY
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For more details circle NED-9940 on enclosed inquiry slip

SPEEDY AIR VISE

SPEEDS UP
✓ MILLING ✓ PUNCHING
✓ DRILLING ✓ BENDING
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GRIPPING FORCE 15 TIMES AIR LINE PRESSURE

Speedy Air Vise helps you do dozens of operations faster, better, cheaper—by air pressure! Foot control valve opens and shuts vise instantly, leaving *both* hands free to produce *more!* Jaw opens up to 3 inches, holds castings, parts, jigs, etc. Compact and trouble-free.

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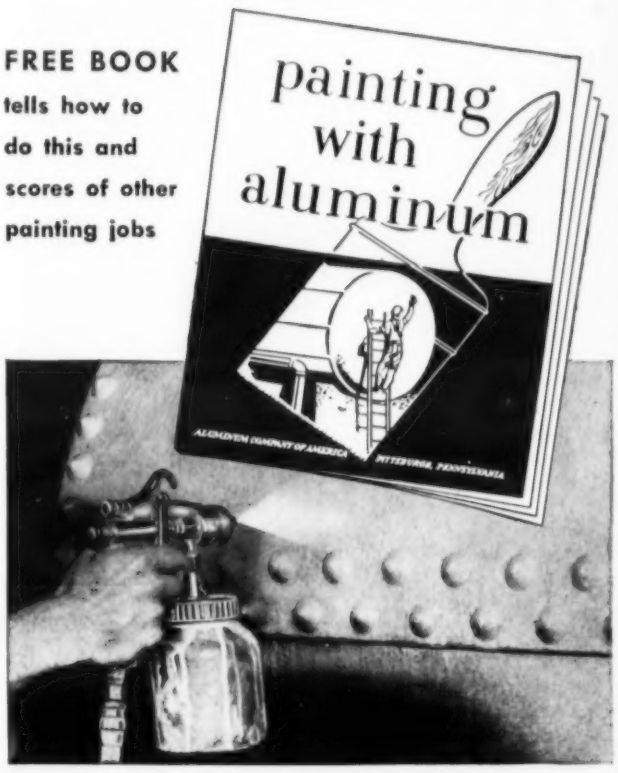
AIR REGULATORS • AIR FILTERS • AIR GUNS • PORTABLE COMPRESSORS

For more details circle NED-9941 on enclosed inquiry slip

How to *Brighten* industrial equipment with just one coat

FREE BOOK tells how to do this and scores of other painting jobs



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Alcoa does not make paint. We have prepared this book so you can know about the many new improvements in aluminum paints; can buy the correct paints without lengthy specifications and tests; can apply them best for lasting protection and good appearance.

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Paint Service Bureau, 1788M Gulf Bldg., Pittsburgh 19, Pa.
Please send me a free copy of: *"Painting with Aluminum"*.
Name (Please print) _____
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Look for this shield on aluminum paints made by many paint manufacturers using ALCOA PIGMENTS.

The RIGHT aluminum paint for this job is ALUMINUM METAL & MASONRY PAINT.

ALCOA ALUMINUM ALBRON

For more details circle NED-9942 on enclosed inquiry slip

ARCCO NEVER-DRY PEN

Writes for Months

REPLACES OTHER MAKES • USES REGULAR INKS

Regardless of pulsations or other causes of ink failures this new Never-Dry Pen will make clean and complete records. Ink supply lasts for several months without refilling reservoir. Capillary tube from ink bottle placed in instrument case feeds pen with continuous flow. Closed system sealed from atmosphere prevents clogging and dirt accumulation.

Weight of pen is constant at all times thus insuring extreme accuracy. No slopping or dripping. Stainless steel construction—no corrosion. When ordering, specify make and type of recording instrument.

AMERICAN RECORDING CHART CO.
3113 E. 11th St. • Los Angeles 23, Calif.

$6.00 each Net
Send for quantity prices

For more details circle NED-9943 on enclosed inquiry slip

UP GOES PRODUCTION —
DOWN GO COSTS!
with FEDERAL DIAL FEEDS

These rugged, precision-built Dial Feed Presses are pets in many press rooms. And rightly so. They speed production—often three to six times—cut down-time, reduce accidents, and eliminate more expensive equipment. Finest materials and workmanship. Six to 80 tons. Automatic feeds and ejectors if desired.

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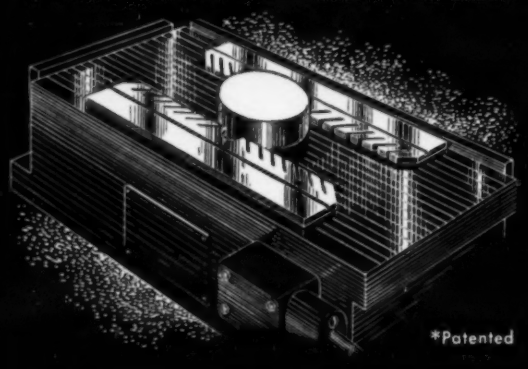
FEDERAL DIAL FEED PRESSES
26 YEARS OF QUALITY CONSTRUCTION

For more details circle NED-9944 on enclosed inquiry slip

PLASTIC . . . MAGNESIUM . . . FIBRE
MONEL METAL . . . HARD RUBBER
. . . other rigid non-magnetic materials
CAN BE HELD ON MAGNETIC CHUCKS!



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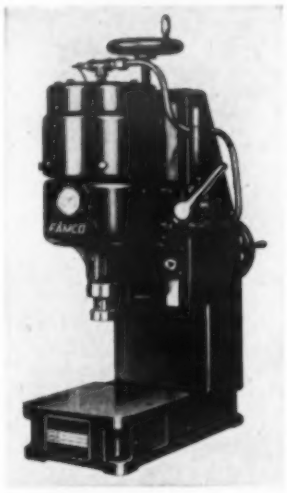
Magna-Vise* MAKES IT SIMPLE!

Get full details on this revolutionary shop-proved device . . . write Dept. ND-121

Hanchett MAGNA-LOCK CORPORATION
Magna-Lock
Magnetic Chucks and Devices
BIG RAPIDS • MICHIGAN, U. S. A.

For more details circle NED-9945 on enclosed inquiry slip

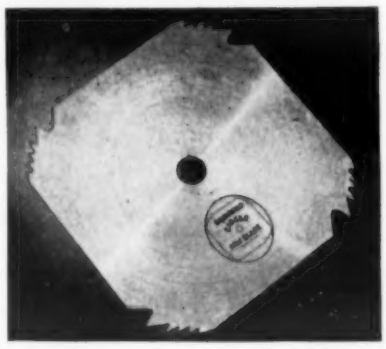
AIR PRESSES
20 models have ½-3½-ton capacities



Designed for continuous industrial operation, this line of air presses includes five types, all with built-in controls. Capacity range is from ½ to 3½ tons. Features include frictionless cylinder of diaphragm design requiring no lubrication, built-in pressure gage, infinitely adjustable stroke, ram keyed to prevent rotating, large working surface and infinite vertical adjustment. Single electronic, single air, dual electronic and dual air control types are available with maximum strokes from 2 to 4 in., 8 and 12-in. maximum shut height with ram up and 5½ and 8-in. shut height adjustment. Made by **Famco Machine Co.**, 1343 Eighteenth St., Racine, Wis.

For more details circle NED-9946 on enclosed inquiry slip

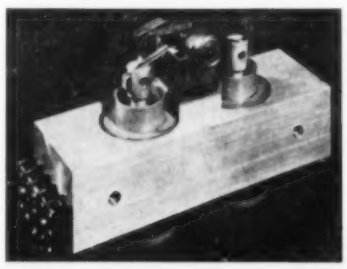
SQUARE SAW BLADE
friction reduced through design



All types of cross-cutting and rip sawing are speedily handled with this Squared-Circle saw blade designed with teeth located at each corner of blade. Absence of teeth along sides of square reportedly results in little friction during operation and thus, a cooler cutting blade. Few teeth to sharpen minimizes blade upkeep. Made by **Clark & Sawyer, Inc.**, 602 Mateo St., Los Angeles 21, Calif.

For more details circle NED-9947 on enclosed inquiry slip

SOLENOID CONTROL UNIT
oil damping gives smooth action



Smooth action throughout ⅞-in. stroke in either direction is provided in oil damped 24-v dc dual solenoid control unit. Intermittent duty pull at ⅞-in. extended position is 2½ lb, while at 1/16-in. from home position it is 5½ lb. Continuous duty pull at extended position is 1 lb, and at 1/16-in. from home position it is 2 lb 3 oz. Cam position gives wide range for motions requiring less than ⅞-in. stroke. With suitable relay circuit, unit can be electrically centered, giving a two-way and centering action. Made by **Scully Machine Co.**, Dept. ND, 62 Walter St., Bridgeport 8, Conn.

For more details circle NED-9948 on enclosed inquiry slip

HYDROSCALE

Proved on Hundreds of Jobs

SAVES DOLLARS IN TAKING INVENTORY AND IN CHECKING INCOMING MATERIALS

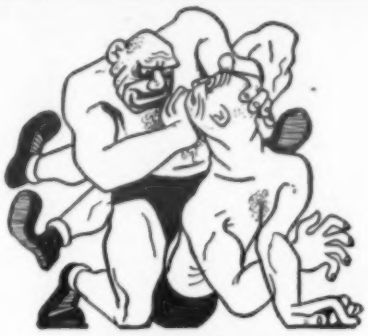
• This hydraulic crane scale weighs the load as you lift it to move it—Makes weighing so simple that it's done where it might otherwise be neglected. Cuts manpower and equipment tie-ups. Eliminates the need for weighing stations.

Low headroom
•
3 Dial sizes: 12, 24, 30"
•
Models 500 to 100,000 lbs. capacity

Write for our catalog.

HYDROWAY SCALES, INC.
20624 WEST 8 MILE ROAD · P. O. Box 4754 · DETROIT 19 MICH

For more details circle NED-9949 on enclosed inquiry slip



UNBRAKO®

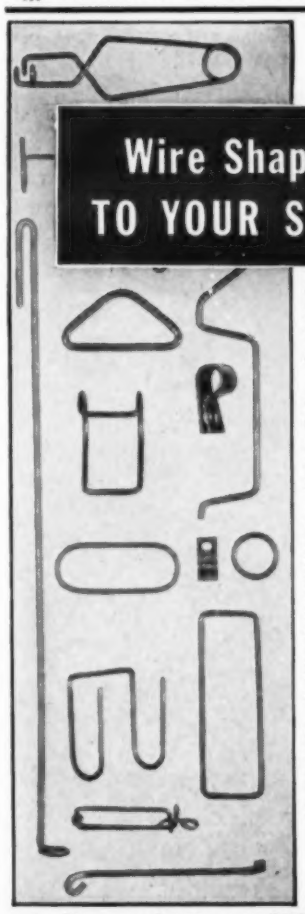
heads won't twist off, either

Controlled fillet and continuous grain flow, following the contour of the UNBRAKO head, eliminate the straight planes of weakness along which shear can occur. Heads are stronger, won't twist off. And both heads and threads have higher tensile and greater resistance to fatigue.

Write for your UNBRAKO Catalog.

SPS STANDARD PRESSED STEEL CO.
JENKINTOWN 24, PENNSYLVANIA

For more details circle NED-9950 on enclosed inquiry slip



Wire Shapes and Forms TO YOUR SPECIFICATIONS

• Your wire forms are produced fast, accurately and at low cost with Sommer mass-production methods.

Speedy, automatic plating equipment handles either large or small assemblies. Popular new Zinc Iridite process adds a bright, durable, economical finish.

Sommer offers complete forming, stamping, cut-threading and butt-welding services. Let us work with you in designing and producing any wire shapes or forms needed for your defense contracts. Send sample, blueprint or drawing—see how Sommer can save you time and money.

SOMMER METALCRAFT CORPORATION
(Formerly JESCHKE Wire and Specialty Company)
200 POSTON DRIVE
CRAWFORDSVILLE, INDIANA

For more details circle NED-9951 on enclosed inquiry slip

NEW APPROVED PUMP makes liquid handling SAFER

These new Tokheim Hand Pumps are a great boon to industrial safety. They stop wasteful dripping and slippery floors, reduce fire hazard and accidents, and save on drum storage space. At the same time, their fast, easy double-action speeds production, reduces costs. Ideal for many liquids. Available in hose and spout models for use with drums or underground tanks.

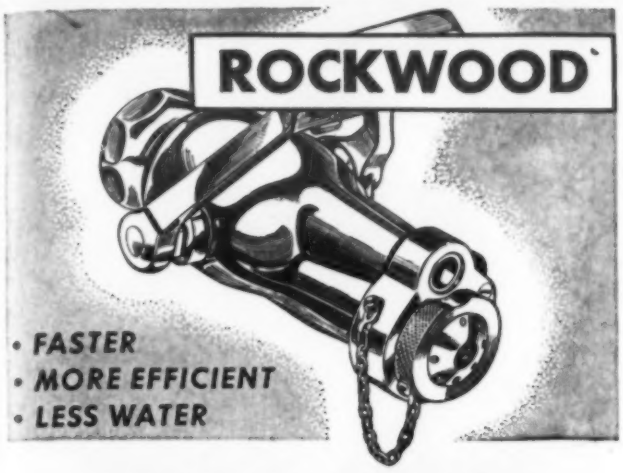
Approved for use with petroleum liquids — ideal for many others.

WRITE FOR LITERATURE

QUALITY TOKHEIM DOUBLE-ACTION HAND PUMPS

General Products Division
TOKHEIM OIL TANK AND PUMP COMPANY
1656 Wabash Ave., Fort Wayne 1, Ind.
Factory Branch: 1309 Howard St.
San Francisco 3, California

For more details circle NED-9952 on enclosed inquiry slip



TRIPLE-ACTION
WaterFOG Nozzles

Rockwood *LIGHTweight* triple-action type SG-48 WaterFOG Nozzles are truly an all-purpose fire fighting tool for controlling and putting out fires in ordinary combustibles and flammable liquids. They use ordinary water and will discharge: 1. High velocity WaterFOG, 2. Straight water stream, 3. Low velocity WaterFOG from extension applicator. Protects operator from fumes and heat. Available in ¾" — 1" — 1½" — 2½" pipe sizes. Operates efficiently at 100 p.s.i. at the nozzle. Write for Bulletin C-501 R.

Approved by Underwriters' Laboratories, Inc. and Factory Mutual Laboratories.

ROCKWOOD SPRINKLER COMPANY
44 HARLOW ST. WORCESTER 5, MASS.

▲ For more details circle **NED-9953** on enclosed inquiry slip ▲

Chem-Board Tote Boxes

HELP BUILD RADAR

Much of the radar needed to scan the skies for our country's safety is being built from materials and parts carried to production lines in Convoy Chem-Board Tote Boxes. The self-stacking boxes illustrated seal their contents from dust and light . . . stack to ceiling without support.

Chem-Board is made of corrugated fibre-board, chemically impregnated by Convoy's exclusive process. It is flint hard and rock strong. It is not weakened by moisture. It is impervious to machine oils. Convoy Tote Boxes cost and weigh 50% to 60% less than steel. The lightness, toughness and economy of Chem-Board Tote Boxes are unmatched. Tell us the style you use . . . we'll send a free production sample from the next run for you to test. As a guide for present and future availability, our current production capacity is reserved for the unprecedented demands from old customers and "DO" orders. Orders rated DO-MRO are acceptable. Write today.

Standard and Custom-made
Nesting — Stacking — Vertical
CHEM-BOARD TOTE BOXES

CONVOY, INC.
P. O. Station B, Box 216-N
CANTON 6, OHIO

▲ For more details circle **NED-9954** on enclosed inquiry slip ▲

FROM THE TEST TUBES OF THE FULLER RESEARCH LABORATORY

Fuller has called on modern chemistry to fill in the chinks in Nature's processes. Take gloss, for example. Fuller's modern research laboratory has developed a new method of crystallization control which permits Fuller Floor Waxes to hold gloss longer, yet remain extremely durable to wear. Water resistant — yet easily removed with *soap* and water. Anti-slip — yet not tacky.

Also: Fuller Furniture Polish, Metal Polish and All-Purpose Cleaner. For more information, write to . . .

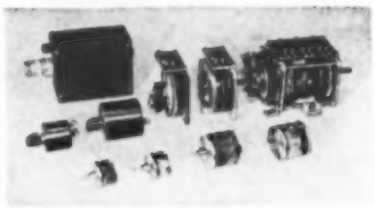
Fuller
SHIPPED FROM NINE DISTRIBUTION POINTS

INDUSTRIAL DIVISION
FULLER BRUSH
At home . . . in business, too

3530 MAIN STREET
HARTFORD 2, CONN.
IN CANADA: FULLER BRUSH CO., LTD., HAMILTON, ONT.

▲ For more details circle **NED-9955** on enclosed inquiry slip ▲

VARIABLE TRANSFORMERS
for 400-800 cycle operation



Line of Powerstat variable transformers for high frequency duty is available for use with electrical equipment making use of frequencies in excess of 400 cycles to conserve space and keep weight to minimum. Units are available in many voltage and current ratings in single and polyphase models to suit most high frequency applications. Made by **Superior Electric Co.**, 51 Meadow St., Bristol, Conn.

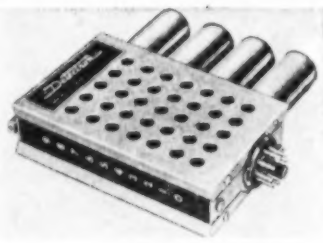
▲ For more details circle **NED-9956** on enclosed inquiry slip ▲

PORTABLE VACUUM
suction picks up water and dirt

The 5/7-hp electric motor incorporated in Wet-Dry Vac enables it to remove water from any type floor, drawing with it particles of dirt and grime. Motor and collection chamber are enclosed in heavy gage steel shell. It is also adaptable to cleaning pipes, beams and other hard-to-reach areas. Chips, waste, dirt embedded in carpets and fabrics and soot and ash from boiler tubes and furnace walls can be removed. Flexible hose, steel cleaning wand, large floor cleaning tool, rubber squeegee and pull-out-proof rubber cord set are included. Offered by **S. C. Johnson & Son, Inc.**, Dept. NED, 1525 Howe St., Racine, Wis.

▲ For more details circle **NED-9957** on enclosed inquiry slip ▲

HIGH-RATE COUNTERS
electronic scalers also totalize impulses at extremely high speeds



Used in conjunction with conventional equipment and instrumentation, high-rate electronic counting and totalizing Detectrons are suitable for investigation of physical phenomena involving functions of time, radiant energy, sound, light, harmonics, acceleration, velocity and stress analysis. Typical applications are in hydraulic, pneumatic, nuclear physics, aerodynamic, process and production fields.

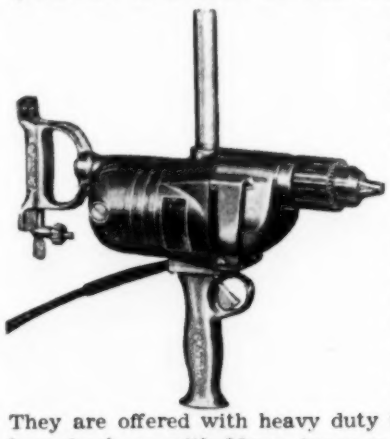
Two models are available, weigh 10 oz and measure 1½ x 5 x 5½ in. overall. Model TU-9 automatically records impulses up to 30,000 per second, while model TU-100 will record at rates as high as 100,000 cycles per second. Both units have octal base plugs for individual or series mounting in conjunction with other circuits or equipment.

By cascading a series of units, direct readings of near astronomical proportions can be read instantly on the internally illuminated panels. Power supply is 200-400 v dc at 12 milliamperes, with input-output pulse of 100 v, negative. Tubes and circuits are shielded in aluminum alloy case. Made by **Stratex Instrument Co.**, 1861 N. Hillhurst Ave., Los Angeles 27, Calif.

▲ For more details circle **NED-9958** on enclosed inquiry slip ▲

PORTABLE ELECTRIC DRILLS
high load speeds for continuous use

Features of Super Hole Shooter portable electric drills include heavy duty universal type motor, high load speeds for continuous use and double and triple reduction gearing for high torque. Balanced, light weight tools have cooling air directed around vital parts by fan. Lifetime lubricated ball and roller bearings are used throughout. Four sizes are available: model C312, ½-in. capacity; model 582, ⅝-in. capacity; model E343, ¾-in. capacity; and model K783, ⅞-in. capacity.



They are offered with heavy duty three-jaw geared type key chuck or with Morse taper sockets. All operate on 25-60 cycle, 115 v, but are available for 32, 150, 230 and 250 v at extra cost. Made by **Milwaukee Electric Tool Corp.**, 5328 W. State St., Milwaukee 8, Wis.

▲ For more details circle **NED-9959** on enclosed inquiry slip ▲

Now! **INDUSTRIAL DOORS PACKAGED!** for erection by your own maintenance men.

Easy operating
CLARK PREST-O-MATIC
FOLDING or SLIDING
DOORS
with
AUTOMATIC CONTROLS

Prevent drafts SAVE HEAT...

. . . and provide fatigue-free access between buildings or departments. Approach-control and specially designed mechanism assures swift and smooth operation. NO FITTING or ALTERATIONS! Prest-o-matic Doors fit against walls; leave full width of entrance; avoids need for costly fitting or fussing.

write for Catalog!

FULLY GUARANTEED
Opens or closes in 3½ seconds. With simple instructions for erection, these doors can be set up within 2 hours.

CLARK DOOR COMPANY
511 Hunterdon Avenue, Newark 8, N. J.

▲ For more details circle **NED-9960** on enclosed inquiry slip ▲

Drill head type cleaner

Expanding blade type cleaner

Single unit type head

SMALL tools for BIG jobs

AIRETOOL small tube cleaners cut tube maintenance costs

(all types may be used with universal joints or flexible connections)

Get after those scale-caked tubes before you are forced to replace them. Give them a thorough, fast, safe cleaning with these AIRETOOL small tube cleaners. Toughest scale deposits are whisked away by the high speed revolving action of specially designed cleaning heads. Powerful AIRETOOL motors . . . furnished with heads shown above, feature slip-fit construction which enables you to take them apart and put them back together without special tools—an important time saver at tube maintenance time.

Your small tubes probably need AIRETOOL attention now. Start saving important time and money by using these AIRETOOL tube cleaners and get cleaning results you didn't think possible. Write The AIRETOOL Mfg. Co., 308 S. Center Street, Springfield, Ohio.

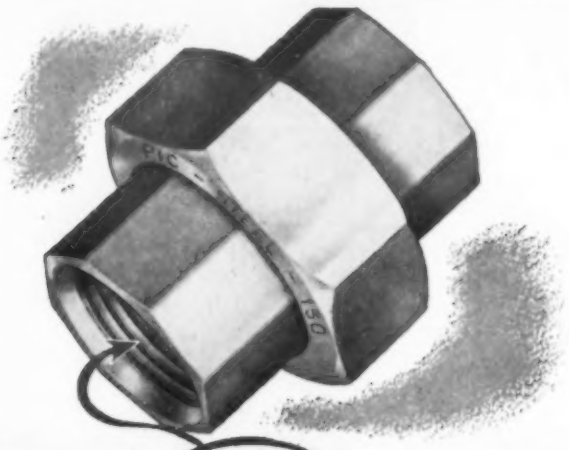
AIRETOOL
MANUFACTURING COMPANY
SPRINGFIELD, OHIO

BRANCH OFFICES:
New York
Philadelphia
Chicago
Houston
Tulsa
Baton Rouge

Representatives in Principal Cities

There's an AIRETOOL Tube Cleaner and Tube Expander for Every Type of Tubular Construction.

▲ For more details circle **NED-9961** on enclosed inquiry slip ▲



Even the threads are zinc-plated!

PIC STEEL UNIONS

You can't cut corners in rust protection. That's why Pics are *100%* zinc plated. This 150 lb. steel union also *helps*, not *hurts* the looks of new equipment — it's attractive and bright. Ends are uniformly flat sided of heavy steel pipe coupling stock. They can take rugged wrenching and installation can be made in tight places or elsewhere with open end wrenches. Most important, a special wedge-type bronze seat affords the secure tightness a quality union should provide. Pics cost less than galvanized, no more than black malleable unions. Try them — write for FREE SAMPLES!

DART UNION COMPANY
132 THURBERS AVENUE, PROVIDENCE 5, R. I.

For more details circle **NED-9962** on enclosed inquiry slip

TONG TEST AMMETER

There is no other instrument like a Tong Test—it measures both A.C. and D.C. Readings are made instantly and accurately.

These outstanding features are yours when you use a Tong Test Ammeter:

- No breaking of circuit
- Operated with one hand
- Safe and convenient to operate
- Light weight—low price
- Scale ranges up to 1000 Amperes
- Voltage attachment available
- Five types to accommodate cables up to 3⅞", bus bars up to 4½" x ½"

Write for Tong Test Bulletin ND-400

COLUMBIA ELECTRIC MFG. CO.
4525 Hamilton Ave., Cleveland 14, Ohio

For more details circle **NED-9963** on enclosed inquiry slip

FREE! FLOOR-CARE BOOKLET

● Send today for this 8-page booklet packed with valuable information on all types of floors. Tells you how they're made — how to clean them — protect them — make them wear longer. Answers 101 questions. Saves you time and money! Every plant and office should have one.

MAIL THIS COUPON NOW FOR YOUR COPY!

MASURY-YOUNG COMPANY
76 ROLAND STREET, Dept. A
BOSTON 29, MASSACHUSETTS

Please send me your FREE FLOOR-CARE BOOKLET

NAME .....
(Please print clearly)
COMPANY .....
STREET .....
CITY ..... ZONE ..... STATE .....

For more details circle **NED-9964** on enclosed inquiry slip

LIMIT SWITCH
sealed for efficiency up to 50,000 ft

Because of complete hermetic sealing with inert atmosphere, Electro-Snap limit switch is proof against freezing, corrosion, explosions, accumulation of dust on contacts, tampering and misadjustments. Tipping diaphragm action prevents jamming from ice formation. Performance is same at sea level or 50,000 ft. Other construction details include double-pole, double-throw switching with nearly simultaneous break. Single-pole, double-throw is optional. Unit weighs about 1½ oz and measures 2 9/16 x 1 9/16 x 1 3/16 in. Made by **Exhibit Supply Co.**, Electro-Snap Div., 4224 W. Lake St., Chicago, Ill

For more details circle **NED-9965** on enclosed inquiry slip

SELF-LOCKING NUTS
spring steel fastener is anchor type

Made to Army and Navy air corps specifications, illustrated self-locking anchor nut consists of flanged anchoring portion integral with thin-walled drawn shell that is tapped throughout entire length. High carbon annealed spring steel nut is crimped and heat treated to provide flexible threaded portion which resiliently grips bolt within span of normally required number of threads. This feature reduces height and weight of nut. It can be used in applications up to 700° F. Nut is made in solid anchor, floating anchor and gang channel types ¼-in. size. Sizes from No. 8 to ⅜-in. will be offered. Made by **Kaynar Mfg. Co.**, 820-A E. Sixteenth St., Los Angeles 21, Calif.

For more details circle **NED-9966** on enclosed inquiry slip

PLASTIC GOGGLES
fit over prescription glasses

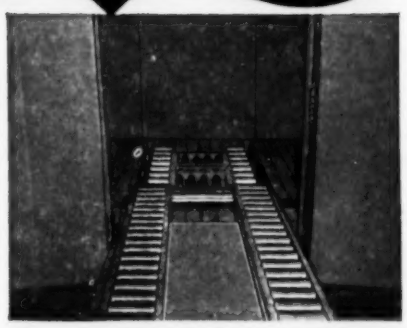
Wide angle vision is afforded by these lightweight one-piece plastic goggles which can be worn over prescription glasses. Molded rubber binding and elastic head band insures snug fit to natural contours of face. Available in clear, GS No. 100, and in green, GS No. 200, goggles protect eyes against flying particles, sparks, splashes, spot welding, chips, dust and glare which might occur in factory, foundry, laboratory and mine occupations. Price runs $1.50 for the clear and $1.75 for the green lens types. Made by **General Scientific Equipment Co.**, 2701 W. Huntingdon St., Philadelphia 32, Pa.

For more details circle **NED-9967** on enclosed inquiry slip

Cut Loading Time in HALF!

WITH **ISLAND PALLET DOLLIES**

Puts an end to the pallet handling problem.



Fork trucks can't enter a reefer car! That's where the Pallet Dolly takes over. Staggered bottom rollers eliminate trouble from floor racks. Has 14 gauge rollers on 4" centers... 2 x 2 x ¼ angle frame... built to handle your pallet... all parts are standard equipment. Write for detailed bulletin RTD-1 A.

Dept. NE-12.

ISLAND EQUIPMENT CORP.
27-01 Bridge Plaza North
Long Island City 1, New York

For more details circle **NED-9968** on enclosed inquiry slip

SPRACO NOZZLES

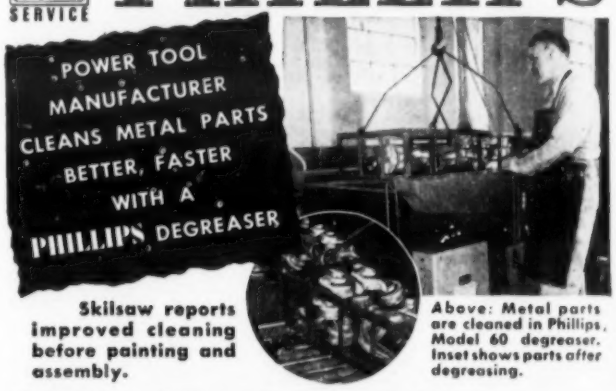
Write for NOZZLE CATALOG *to*
SPRAY ENGINEERING CO.
106 CENTRAL STREET • SOMERVILLE 45, MASS.

For more details circle **NED-9969** on enclosed inquiry slip

ENGINEERED SERVICE

PHILLIPS

POWER TOOL MANUFACTURER CLEANS METAL PARTS BETTER, FASTER WITH A PHILLIPS DEGREASER



Skilsaw reports improved cleaning before painting and assembly.

Above: Metal parts are cleaned in Phillips, Model 60 degreaser. Inset shows parts after degreasing.

HERE is another case illustrating the high cleaning efficiency of Phillips degreasers. Skilsaw, Inc., Chicago, uses a Phillips Model 60 electric batch-type machine to clean both aluminum and iron castings, steel stampings, shafts and screw machine parts before painting and assembly of the finished product.

Skilsaw reports that the Phillips unit cleans their parts better, as well as 3 to 4 times faster than their former method.

Check into the time and money you can save with Phillips Vapor Degreasing. Our representative will be glad to discuss your parts cleaning problem with you.

SEND FOR YOUR FREE COPY OF NEW ILLUSTRATED DEGREASER BULLETIN!

Phillips MANUFACTURING COMPANY
3463 Touhy Ave. • Chicago 45, Illinois
Vapor Degreasers • Solvents • Parts Washers

For more details circle **NED-9970** on enclosed inquiry slip

Arcos Low Hydrogen Electrodes
***Replace Stainless* For Welding High Tensile Steels**

● Each day sees a growth in the requirements of nickel and chromium for defense production. The increased use of low hydrogen electrodes on welding high tensile steels is helping to free more of these critical alloys.

ARCOS low hydrogen electrodes are far removed from the experimental stage—they've already been "time tested and approved" on armor welding, as well as commercial applications.

ARCOS CORPORATION
1500 South 50th St., Phila. 43, Pa.

WELD WITH ARCOS
Stainless, Low Hydrogen and Non-Ferrous Electrodes

For more details circle **NED-9971** on enclosed inquiry slip

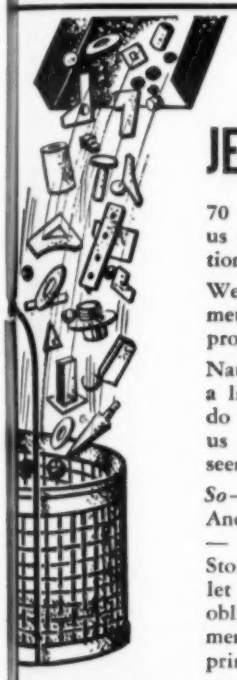
Commercial's

NEW CATALOG on HYDRAULIC OIL PUMPS and MOTORS

Now Ready for you on Request.

THE COMMERCIAL SHEARING AND STAMPING CO.
P. O. BOX 719 YOUNGSTOWN 1, OHIO

For more details circle NED-9972 on enclosed inquiry slip



WHEN YOU PUT A LOT OF LITTLE ONES INTO A BIG ONE — MAKE SURE IT'S A

JELLIFF DIPPING BASKET

70 years making Wire Mesh have taught us a lot about this material, its fabrication, and uses.

We make Dipping Baskets of any ductile metal, and in any size and shape your products and process require . . .

Naturally we believe we make them just a little bit better than the other fellows do — and a lot of people who turn to us regularly for their Dipping Baskets seem to agree with us.

So—for Degreasing—Pickling—Plating Anodizing — Washing — Heat Treating — or for just plain Bulk Handling or Storage of small parts in large quantities, let JELLIFF give you a no-cost no-obligation estimate for your next requirement of Dipping Baskets. Send a blueprint or specifications to Department 11.

THE C. O. JELLIFF MFG. CORP.
DIPPING BASKETS · LEKTROMESH · RESISTANCE WIRE
WIRE MESH PARTS · WIRE CLOTH · STRAINERS • FILTERS
SOUTHPORT CONNECTICUT
WIRE PRODUCTS jelliff SINCE 1860

For more details circle NED-9973 on enclosed inquiry slip

TRADE MARK V-R REG. U. S. PAT. OFF.

Presenting

a NEW MARK of Long-Established Quality

Since 1878 and the earliest bicycle cyclometer . . . to the present day when counters are built into everything from hay-balers and textile looms to jet planes and gasoline pumps . . . Veeder-Root has been "the name that counts."

Today, Veeder-Root is the world's largest manufacturer of counting and computing devices for mechanical, electrical, and manual operation. And as a symbol of "the name that counts," this trademark has been developed as a hallmark of old-fashioned quality and modern design *in everything that counts.*

So when you buy counters, look for this mark, and remember: V-R stands for Veeder-Root . . . and also for *"Value Received."*

VEEDER-ROOT INC., Hartford 2, Conn.

For more details circle NED-9974 on enclosed inquiry slip

COPPER FLASHING JOINT
permits expansion and contraction

Tailored to fit standard dimensions of copper base flashing, this 18-oz expansion joint is prefabricated and provides for expansion and contraction. It has 4-in. horizontal member and 12-in. vertical leg. Open seams on edges of joint facilitate interlocking and soldering of adjoining lengths of base flashing. They are used 24 ft or less apart. Prefabricated cap box is furnished for attaching to cap flashing as protective cover for half-circle in expansion joint. Made by **Chase Brass & Copper Co.**, Dept. N-12, Waterbury 20, Conn.

For more details circle NED-9975 on enclosed inquiry slip

MINIATURE RELAY
is hermetically sealed

This miniature hermetically sealed relay features eight-terminal sealed header with 0.600-in. OD and balanced armature relay sealed in ⅞ x ⅞ x ⅞-in. drawn aluminum can. Unit can be panel mounted from either top or bottom side. Developed in conjunction with North Electric Mfg. Co., Galion, O., relay can be furnished with either dry air fill or vacuum pumped and pressure filled with dry nitrogen. Available from **Hermaseal Co.**, Elkhart, Ind.

For more details circle NED-9976 on enclosed inquiry slip

DECIMAL EQUIVALENT DISK
gives tap, thread and drill data

In addition to giving decimal equivalents from 1/64 to 1 in., this time saving disk offers information on diameter of tap, number of threads per inch and diameter of tap drill for U. S. standard screw threads. All data are obtained by turning celluloid dial to diameter of tap required. Reverse side of pocket-size disk has table for ASME special and standard machine screws, American standard taper pipe threads and SAE standard screw threads. Available free from **Dayton Rogers Mfg. Co.**, 2822 Thirteenth Ave. S., Minneapolis 7, Minn.

For more details circle NED-9977 on enclosed inquiry slip

LESS DOWN TIME, MORE PRODUCTION FROM PUNCH PRESSES FED BY

LITTELL DOUBLE AUTOMATIC CENTERING REELS

Vital minutes are saved, with practically no down time for coil replacement, when a Littell Double Reel uncoils stock to the punch press. The idle side of the reel is loaded while the other side pays out. When a coil is used up, the operator simply lifts the hub lock pin, then swivels the reel 180°, thus placing the reserve coil in press feeding position. The changeover is complete in a few seconds. Like Littell Single Reels, Littell Double Reels combine balance that means smooth running accuracy with rugged malleable iron and steel construction that assures year in, year out dependability.

FOUR SIZES
No. 3 . . . . for coils up to 300 lbs.
No. 5* . . . . for coils up to 600 lbs.
No. 10* . . . for coils up to 1,000 lbs.
No. 25* . . . for coils up to 2,500 lbs.
*Can be furnished with motor drive

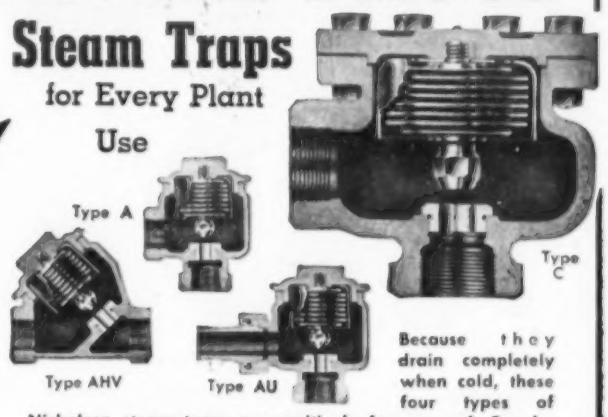
Write for catalog

F. J. LITTELL MACHINE CO.
ROLL FEEDS • DIAL FEEDS • STRAIGHTENING MACHINES • REELS • AIR BLAST VALVES
4169 N. RAVENSWOOD AVE. • CHICAGO 13, ILL.
District Offices: Detroit, Cleveland

For more details circle NED-9978 on enclosed inquiry slip

NICHOLSON MAKES

FREEZE-PROOF Steam Traps for Every Plant Use



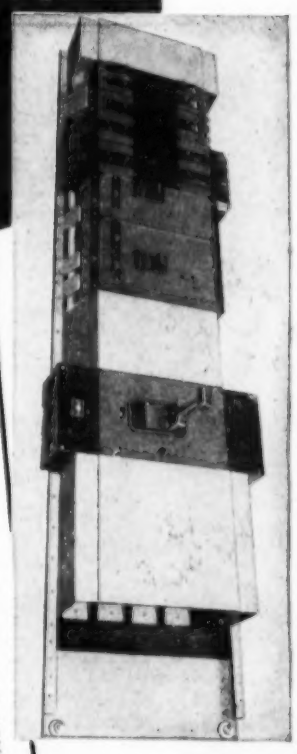
Because they drain completely when cold, these four types of Nicholson steam traps are positively freeze-proof. Can be freely installed outdoors. Universally recommended for use in lines which need not be in continuous use during cold weather, because they are freeze-proof and because their 2 to 6 times average drainage capacity results in minimum heat-up time. The non-air binding feature of Nicholson traps also notably facilitates heat transfer in severe weather. Size ¼" to 2"; press. to 225 lbs.

BULLETIN 450
162 Oregon St., Wilkes-Barre, Pa.

W. H. NICHOLSON & CO.
TRAPS · VALVES · FLOATS

For more details circle NED-9979 on enclosed inquiry slip

PICK YOUR CIRCUIT BREAKER FROM THE COMPLETE I-T-E LINE



125-600 volts a-c
125-250 volts d-c
10-600 amperes continuous
5000-25,000 amperes interrupting
1, 2, or 3 pole

I-T-E has a *full line* of molded case circuit breakers to meet your every need. Safe, dependable overcurrent protection is provided for every installation. Specify these breakers in panelboards, switchboards, load centers, and individual enclosures. Feature for feature, you get more when you order I-T-E Molded Case Circuit Breakers.

100 ampere F frame breaker in NEMA Type 1-A enclosure

For help in choosing the right circuit breaker from the full I-T-E line, write for Bulletin 5004D and Catalog Section 5000. Or call your local I-T-E representative. He will be glad to help you.

Modern, efficient I-T-E Molded Case Circuit Breakers offer you these benefits:

1. Greater clearance between phases
2. Enclosed terminals for greater safety
3. Uniform construction on 1½" pole centers
4. Time saving, extra-safe drawout terminals
5. External instantaneous trip adjustment
6. Internally mounted special features

I-T-E R&IE

MOLDED CASE CIRCUIT BREAKERS

Approved by Underwriters' Laboratories, Inc.

I-T-E CIRCUIT BREAKER COMPANY
19th and Hamilton Streets
Philadelphia 30, Pa.

For more details circle NED-9980 on enclosed inquiry slip

HAVE YOU TRIED THIS ONE FOR SIZE?

Small or Large—R P Paint Arrestors Economically Solve the Most Difficult Paint Overspray Problems

Here's another example of the flexibility of R P Paint Arrestors—a bench type booth for spraying small articles. This plant has six such units emptying into a common exhaust duct . . . a simple, effective installation at minimum cost.

WRITE FOR FREE BOOKLET
Helpful, informative suggestions to solve your paint spray booth problems. Write today.
RESEARCH PRODUCTS CORPORATION
Dept. N; Madison 10, Wis.

RP . . . PRODUCTS OF RESEARCH

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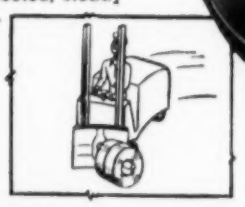
tough tires for tough jobs
MONARCH UNIVERSAL
pressed-on tires

The low ton-mile cost on these babies makes good reading on your cost sheets. Monarch Universals combine exceptional wear resistance with good shock absorption. They are stable, sure-footed, steady on the high lifts.



cut the cost of bumps
MONARCH MONO-CUSHION
pressed-on tires

These big, burly cushion tires literally soak up shock and shock load, reduce vehicle maintenance as much as 40%. They're easy on loads, floors, and drivers, too—cut costs all the way around.

soft touch for floors
MONARCH CURED-ON
industrial tires

Your hand-powered vehicles pussyfoot silently over your floors on Monarch Tires, never chip or groove floor surfaces. And these long-wearing tires are easy on people—take up "road" shock, make caster wheels swivel easily.

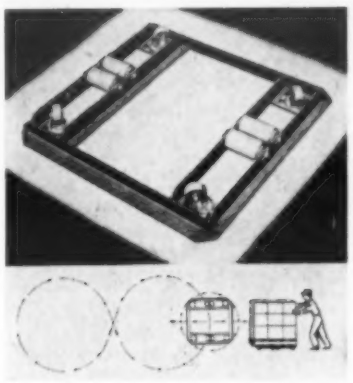
YOUR BEST SOURCE for replacement tires is the manufacturer of your vehicles, who can supply you, through his service branches, with Monarch Tires engineered for your application.

THE MONARCH RUBBER COMPANY
200 LINCOLN PARK • HARTVILLE, OHIO

SPECIALISTS IN INDUSTRIAL SOLID TIRES AND MOLDED MECHANICAL RUBBER GOODS

▲ For more details circle NED-9982 on enclosed inquiry slip ▲

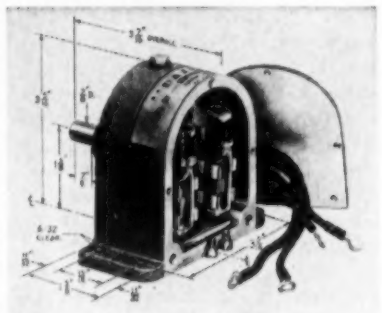
PALLET ROLLER
moves loaded pallet in any direction



Materials loaded on pallets can be moved in any direction in production and warehousing operations once placed on Ace swivel pallet rollers. Built of high tensile strength steel, welded pallet rollers have frame which retains parallelism and alignment under all conditions. Heavy-gage large-diameter rolls are free rolling. Bearings are lubricated. Four sizes, 30 x 30, 36 x 36 in., 42 x 42 in. and 48 x 48 in., have 4000 lb capacity and swivel caster at each corner of frame. Made by **Frank L. Robinson Co.,** 508 Sixteenth St., Oakland 12, Calif.

▲ For more details circle NED-9983 on enclosed inquiry slip ▲

PLUGGING SWITCH
controls speeds above 2 rpm



Applications of Dazic direction and zero indicating contactor or zero speed plugging switch include preventing reversal of controls until revolving shafts stop and indicating or warning of direction of rotation of shafts. For use on conveyors, pumps, fans, centrifuges, wire stranders, machine tools and servomechanisms, device also supervises and warns of shaft rotation failure and stops shaft to zero by reversal. Hydraulic and electrically coupled shaft-driven switch indicates and controls speeds above 2 rpm. Contacts are rated at ½-amp at 110 v 60 cycles only. An adjustable speed model is also available. Made by **Walworth Controls Co.,** N. Main St., Rocky Hill, Conn.

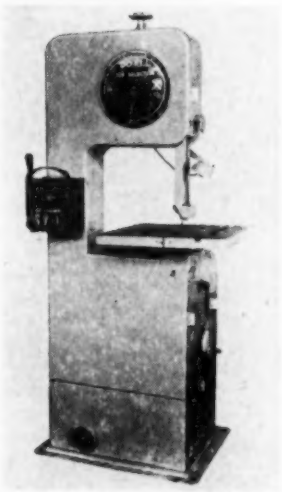
▲ For more details circle NED-9984 on enclosed inquiry slip ▲

PLASTIC COVERED NUTS, BOLTS
withstand highly corrosive processes

Vinyl plastic encased nuts and bolts for use in long narrow tanks or baths employed in rayon manufacturing process resist highly corrosive chemicals at elevated temperatures. Liquid tight seal and effective protection to metal is maintained for long periods. Even when ruptured, coating wound is sealed by corrosion products themselves to prevent continued reaction. Manufacturing process consists of dipping properly preheated nut or bolt in vinyl plastisol made from B. F. Goodrich Geon paste resin. No finishing operation is required. With special hardening operation, coating can be given hardness in excess of 100 Durometer A. Made by **Steere Enterprises,** Dept. N, 70 S. Canal St., Akron 8, O.

▲ For more details circle NED-9985 on enclosed inquiry slip ▲

BAND TOOL MACHINE
performs sawing, polishing and filing on all types of materials



Both high and low tool speed ranges are provided by model SFP light duty bandsawing-filing-polishing machine without changing belts, pulleys or motors. Of unit welded steel construction, machine offers 16-in. throat and 12-in. thickness capacity. Speed is infinitely variable by handwheel control and two-speed geared transmission from 50 to 300 fpm and from 860 to 5200 fpm.

Machine includes saw band welder for making internal cutouts such as die openings, as well as standard job selector dial and Speedmaster drive. It takes standard saw bands up to ½ in. wide, file bands ¼, ⅜ and ½ in. wide and ¾-in. polishing bands. Handwheel controlled automatic power feed with pedal release is optional along with assortment of guides and attachments. Made by **DoALL Co.,** 256 N. Laurel Ave., Des Plaines, Ill.

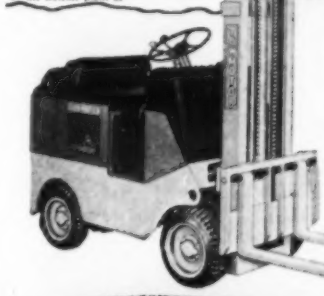
▲ For more details circle NED-9986 on enclosed inquiry slip ▲

LATE BULLETIN: Film, "What Makes It Tick," Acclaimed By Top Management

INCREASED PRODUCTION RESULT OF TOWMOTOR HANDLING EFFICIENCY

Towmotor Mass Handling Triples Storage Capacity In Modern Warehouse

Production Costs Cut 60% By Towmotor Mass Handling



The NEW TOWMOTOR..

industry's handling headliner!

There's good news about handling costs when Towmotor makes the headlines. Five new Towmotor models add increased versatility to every phase of handling in leading industries everywhere. *Headline features include:* Shorter wheel base; larger tires; double universal joint; extra heavy duty clutch. See complete details of the NEW Towmotor in a 15-minute film, "What Makes It Tick." Write for showing in your office.

TOWMOTOR
THE ONE-MAN-GANG ®
FORK LIFT TRUCKS and TRACTORS
TOWMOTOR CORPORATION, Div. 25, 1226 E. 152nd St., Cleveland 10, O.
Representatives in all principal cities in U.S. and Canada.

RECEIVING • PROCESSING • STORAGE • DISTRIBUTION

▲ For more details circle NED-9987 on enclosed inquiry slip ▲

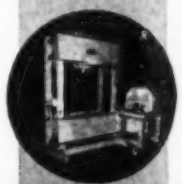
For 101 Unusual Jobs there's nothing like a

HYDRAULICS Rodgers

Rodgers SHOP PRESS

Yes, a Rodgers Hydraulic Shop Press is about the handiest piece of equipment you can find for those many pressing, forming, bending and straightening jobs, for die try-out, short production runs and scores of other uses. Standard model presses are available in 60, 80, 100, 150, 200, 300 and 400 ton capacities with hand or power pumps—special or modified units will be supplied to specifications.

RODGERS 60-80 TON SHOP PRESS



RODGERS 150-200 TON SHOP PRESS

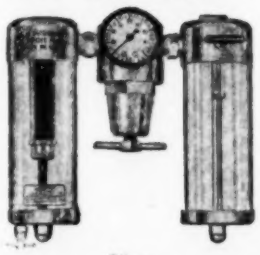
Send for Rodgers Shop Press Catalog 313A

Rodgers Hydraulic, Inc.
HYDRAULIC POWER EQUIPMENT
7425 WALKER ST., ST. LOUIS PARK, MINNEAPOLIS 16, MINN.

▲ For more details circle NED-9988 on enclosed inquiry slip ▲

"M-B" AUTOMATIC *Air Line* FILTER, REGULATOR and LUBRICATOR ASSEMBLY

"Sentinel of the Air Line"



Also Pneumatic Grinders
"Remember, Built-in quality remains long after first-cost disappears"

FILTER element removes solids .00039 and larger. TRANSPARENT BOWL provides visibility. REGULATOR is capable of passing large volume with an unrestricted flow and minimum amount of pressure drop. Self-bleeding, compact, simple. Machined from bar aluminum. LUBRICATOR delivers desired volume of oil. Adjustable Venturi Valve permits efficient operation on broad range of volume and pressure. Bowl can be refilled without shutting off air supply. Any of these 3 devices can be used as separate units or in any combination.

Write for Literature

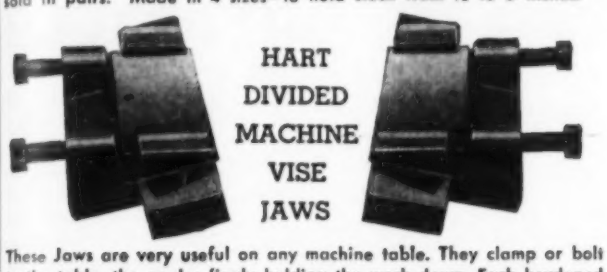
M-B PRODUCTS
46 Victor Ave.
DETROIT 3, MICHIGAN

▲ For more details circle NED-9989 on enclosed inquiry slip ▲

·HART·
MILLING FIXTURES
MASTERS OF 1000 SETUPS

Eliminate many needs for Special, Expensive Jigs and Fixtures

Hart Milling Fixtures make themselves popular and profitable in any shop—are used in either horizontal or vertical position. Suitable to hold round, hexagonal, octagonal, or square stock, aligning the work with the machine. Grip holds the work on the bottom as well as on back. Generally sold in pairs. Made in 4 sizes—to hold stock from ½ to 5 inches.



HART DIVIDED MACHINE VISE JAWS

These Jaws are very useful on any machine table. They clamp or bolt to the table, the angles firmly holding the work down. Each hardened tool steel jaw measures 3" x 6" x ½". The angle edges are serrated.

We also manufacture Hart Index Centers. Write for new bulletin.

WALTER W. FIELD & SON INC.
39 HAYWARD STREET, CAMBRIDGE 42, MASS.

For more details circle **NED-9990** on enclosed inquiry slip

DRIVE SCREWS FASTER!

"SHAKEPROOF" POWER SCREW DRIVER

Hopper feeding eliminates tedious, costly separate screw handling—speeds driving up to 60 or more screws per minute! Ideal for driving Sems or Thread-Cutting Screws as well as machine screws, sheet metal screws or wood screws.

SEE HOW YOU CAN CUT SCREW DRIVING TIME — SEND FOR YOUR FREE COPY OF THE SHAKEPROOF POWER DRIVER BOOKLET TODAY

SHAKEPROOF inc.
Division of Illinois Tool Works
2501 NORTH KEELER AVENUE,
CHICAGO 39, ILLINOIS

For more details circle **NED-9991** on enclosed inquiry slip

Look NO MAINTENANCE! *with*

STAINLESS STEEL FLOATS

Your product will be better, will require virtually no maintenance, if it is equipped with Chicago's stainless floats. In fifteen years of making welded stainless steel floats, Chicago Float Works has produced many thousands with excellent results under severe operating conditions. This enviable record assures you of the finest, most dependable floats available to build into your products or for replacement use.

CHECK THESE FEATURES

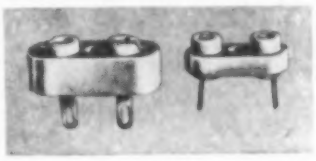
- Standard Diameters 2 to 10".
- Pressures to 1000 lbs.
- Temperatures to 800°F.
- All Standard Spud Connections.
- Top quality 18-8 Stainless Steel.
- Non-corized weld for superior strength, and corrosion resistance available where required.

WRITE FOR FREE CATALOG

CHICAGO FLOAT WORKS, INC.
2342 So. Western Avenue • Chicago 8, Illinois

For more details circle **NED-9992** on enclosed inquiry slip

PLASTIC CRYSTAL SOCKETS
have frequency stability and low loss



Chemelec crystal sockets, made of DuPont Teflon, have less than 0.0005 loss factor and dielectric constant of only 2.0 from 60 cycles to 30,000 megacycles. For use where mechanical shock and vibration are problems, sockets have zero water absorption rating by ASTM test and are unaffected by extreme humidity. They are serviceable at temperatures from 110 to 500° F with negligible change in critical electrical characteristics. Three sizes are offered: for 0.050-in. pins spaced 0.500-in., 0.095-in. pins spaced 1.500-in. and 0.125-in. pins spaced 0.750-in. Made by **United States Gasket Co.**, Fluorocarbon Products Div., 654 N. Tenth St., Camden 1, N. J.

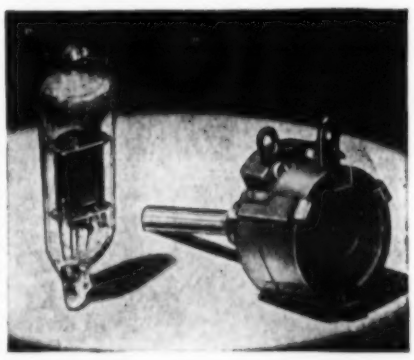
For more details circle **NED-9993** on enclosed inquiry slip

LOCK & CABLE ENSEMBLE
secures hard-to-lock items

Setting of combination number quickly opens this English-made Combo-Lock designed for tamper-proof service indoors or out. Available with 36-in. steel companion cable, lock is handy for locking doors, garages, lockers, kits, tool boxes and gates. Flexible plastic-covered cable will not scratch, is light and easily carried and wraps around any stationary object. Machined loop ends fit shank of lock which has brass-plated combination cylinder, die-cast case and tempered steel shank. Handled by **Dawes Distributors**, 9 Bow St., Cambridge, Mass.

For more details circle **NED-9994** on enclosed inquiry slip

SUBMINIATURE CONTROL
available as single or dual unit



Having diameter of only ⅝ in., improved subminiature series 48A control is available as either a single or dual unit. Body depth of single unit is 7/16 in., while double unit measures 53/64 in. Bushing is ¼-in. long, beyond which standard ⅛-in.-round soft metal shaft extends ½-in. Shaft can be obtained as flatted or slotted tube. Enclosed in durable Bakelite body, control is available in tapered resistances ranging from 5000 ohms to 2.5 megohms, or in linear resistances ranging from 1000 ohms to 5 megohms. Made by **Clarostat Mfg. Co.**, Washington St., Dover, N. H.

For more details circle **NED-9995** on enclosed inquiry slip

recorders

RECORD TIME • COUNT QUANTITY AND WEIGHT

Actuated by an electrical impulse . . . operates on the output of a scaler, photo tube, limit switch or any similar device. Records counts with relation to time and quantity on a roll of tape . . . automatically resets to zero.

In Radioactive Research, it saves precious man hours and results in greater economy and efficiency.

In Industry it maintains a permanent record automatically, recording production and time each hour.

Whatever your counting problems, our Engineering Department can adapt these Recorders to meet your particular need.

Write for interesting Booklet SC 15

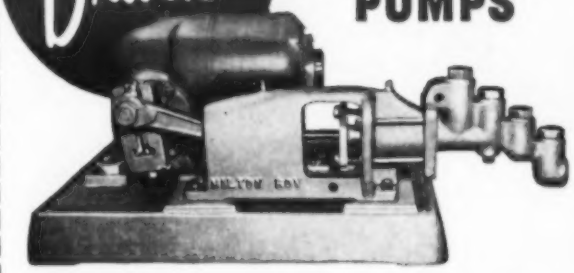
AUTOMATIC WEIGHT RECORDERS SINCE 1888

STREETER-AMET COMPANY
4101 N. RAVENSWOOD AVENUE • CHICAGO 13, ILLINOIS

SCALES • WEIGHT RECORDERS • HI-SPEED COUNTERS

For more details circle **NED-9996** on enclosed inquiry slip

Motor Driven CONTROLLED VOLUME PUMPS



Milton Roy Motor-Driven Controlled Volume Pumps, like the one illustrated, are the reciprocating, positive displacement type, designed for precise pumping at either high or low pressures.

CAPACITIES: from 3 milliliters per hour to 50 gallons a minute against pressures to 20,000 psi.

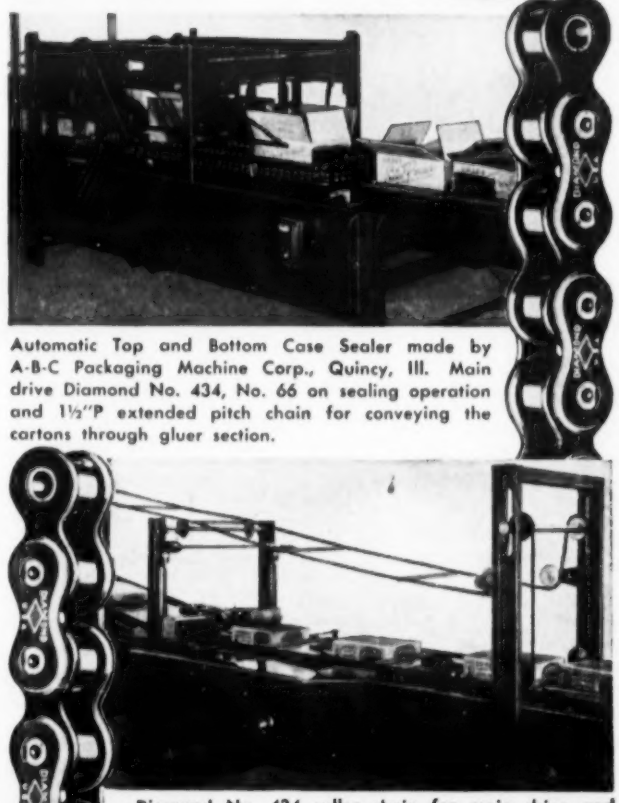
APPLICATIONS: These pumps are used in industry as single or multiple units for *blending, formulating, continuous processing, chemical feed systems, automatic pH control — anywhere precise pumping of liquids in controlled volume is required.* Difficult-to-pump materials? Milton Roy Motor-Driven Controlled Volume Pumps easily handle tars, sludges, slurries, solids in suspension. The non-clogging, self-cleaning step-valve is standard equipment.

For full details, write for Bulletin No. 251.

MILTON ROY COMPANY
1304 E. MERMAID LANE • PHILADELPHIA 18, PA.

For more details circle **NED-9997** on enclosed inquiry slip

Simple as A B C



Automatic Top and Bottom Case Sealer made by A-B-C Packaging Machine Corp., Quincy, Ill. Main drive Diamond No. 434, No. 66 on sealing operation and 1½"P extended pitch chain for conveying the cartons through gluer section.

Diamond No. 434 roller chain for main drive and No. 66 with cross flight attachments for conveying on A-B-C Case Unloader and Unscrambler.

DIAMOND Roller Chains
Simplify Operations

- For the packaging of products of all kinds for civilian or military use, modern automatic machinery is necessary to multiply speed and minimize manual labor.

Driven by dependable Diamond Roller Chains, A-B-C Case Sealers and Unloaders operate at high speed and low cost. Efficient operation is assured with minimum labor or attention.

Whatever the particular requirement, short or long centers, fast or slow speeds, unusual strain or shock—wherever transfer of power or material without waste or slip is important—DIAMOND ROLLER CHAINS perform with time and cost saving advantages.

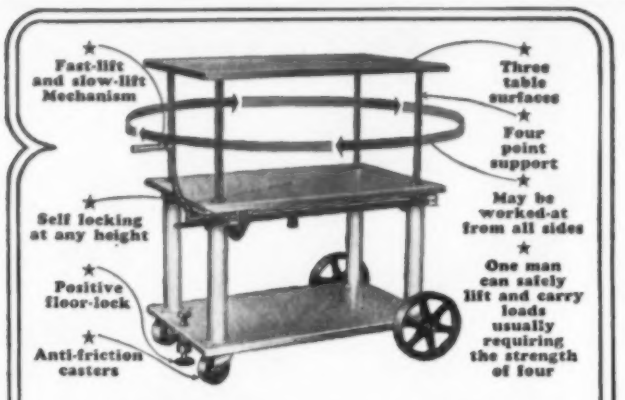
DIAMOND CHAIN COMPANY, Inc.
Dept. 457, 402 Kentucky Ave., Indianapolis 7, Indiana

Offices and Distributors in All Principal Cities

Refer to the classified section of your local telephone directory under the heading CHAINS or CHAINS-ROLLER

DIAMOND ROLLER CHAINS

For more details circle **NED-9998** on enclosed inquiry slip



MECHANICAL MUSCLES
WHICH ELIMINATE THE NEED FOR EXTRA HANDS — EXTRA TRIPS

PORTELVATOR©
HANDY HAMILTON
PORTABLE ELEVATING TABLE
LIFTS — LOWERS — LEVELS
TRANSPORTS
★
learn the penny-pinching particulars, write for this
FREE BULLETIN NO. P-505

THE Hamilton TOOL COMPANY
901 HANOVER STREET • HAMILTON • OHIO • U • S • A

For more details circle NED-9999 on enclosed inquiry slip

MEN SCARCE?
2
BIN-DICATORS
OFTEN RELEASE ONE MAN FOR OTHER WORK

BIN-FLO AERATOR UNITS KEEP BULK MATERIALS MOVING

BIN-DICATORS indicate level of materials in bins, silos, hoppers, chutes, etc., and report overfeed, choking, underfeed, almost full, almost empty, etc., to central control point by visible or audible signals. Also, automatically control operation of machinery as indicated by any of above conditions.

Always on the job—and doing it. Low first cost; negligible operating cost. Used on over 100 materials. Fully guaranteed. Write for free book.

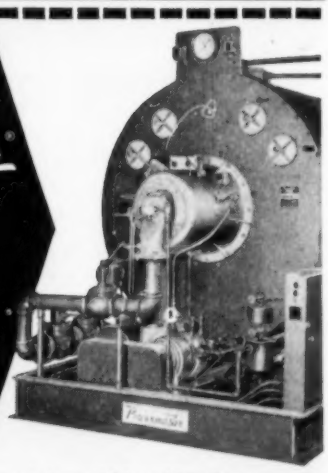
BIN-FLO Aerator Units in bins, hoppers, chutes use low pressure air to keep materials moving at points of restricted flow.

NEW 20 PAGE BOOK FREE

THE BIN-DICATOR CO.
13946-A Kercheval • Detroit 15, Mich.

For more details circle NED-10,000 on enclosed inquiry slip

ONLY THE Powermaster GIVES YOU ALL 3 ADVANTAGES



1. Wide range between high and low fire—you use less fuel. 2. Freedom from carbon cuts clean-up time and expense—usually by 50%. 3. Change from oil to gas (or gas to oil) in a few minutes.

To Cut Your Steam Costs Mail Coupon Today

ORR & SEMBOWER, INC. • 930 Morgantown Road • Reading, Pa.
Please send my free copy of the POWERMASTER catalog.

NAME _____ TITLE _____
(Please Print)
COMPANY _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

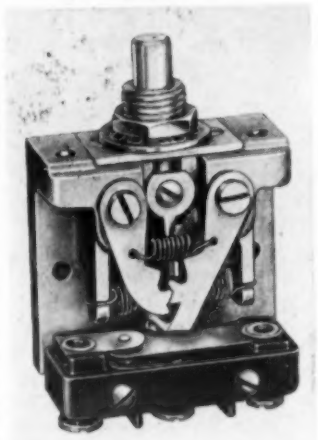
For more details circle NED-10,001 on enclosed inquiry slip

SCREWDRIVER BITS
various sizes and styles offered

Line of ¼-in. hex drive and threaded shank bits is available for slotted, Phillips and Frearson (Reed & Prince) screws. Bits are alloy steel, accurately heat treated and machined to close tolerances. Bits provide maximum service on difficult driving jobs such as self-tapping screws. Sizes include bits for slotted screws from No. 1 through No. 14; Nos. 1, 2 and 3 Phillips screws and standard Frearson screws. Made by **Ludwig Hommel & Co.**, Dept. D, 72 First Ave., Pittsburgh 22, Pa.

For more details circle NED-10,002 on enclosed inquiry slip

MAINTAINED-POSITION SWITCH
for limit, timer and safety uses



First press of button on type A-C-O maintained-position switch transfers the contacts, while the second press restores them. Uses for alternate-contact-operating switch are on machine tools, circuit transfer of timers and recording equipment, in safety circuits and as limit switch. Single-pole, double-throw contacts allow adaptation to either normally closed or normally open circuits. Overall dimensions are 2 x 2 25/32 x 1 3/32 in. Cover encloses mechanical parts of switch that has 20-amp, 125-v ac noninductive rating. Made by **General Control Co.**, 1211 Soldiers Field Rd., Boston 34, Mass.

For more details circle NED-10,003 on enclosed inquiry slip

GAGE INSPECTION UNIT
is small, light and mobile

Machine gages can be checked on the job with compact mobile inspection cabinet which has five roller mounted drawers to carry all the tools and measuring instruments inspector may need. Unit measures 37 x 28 x 18 in., is constructed of heavy-gage welded steel and has pressed wood top to protect instruments dropped on it. Ledge around top prevents tools from sliding off. Two of the free-rolling swivel casters on which cabinet rolls are equipped with brakes. Adjustable top light is connected to 25-ft extension cord which pulls out of spring operated take-up reel. Receptacles are provided for electrical instruments. Made by **DoALL Co.**, 256 N. Laurel Ave., Des Plaines, Ill.

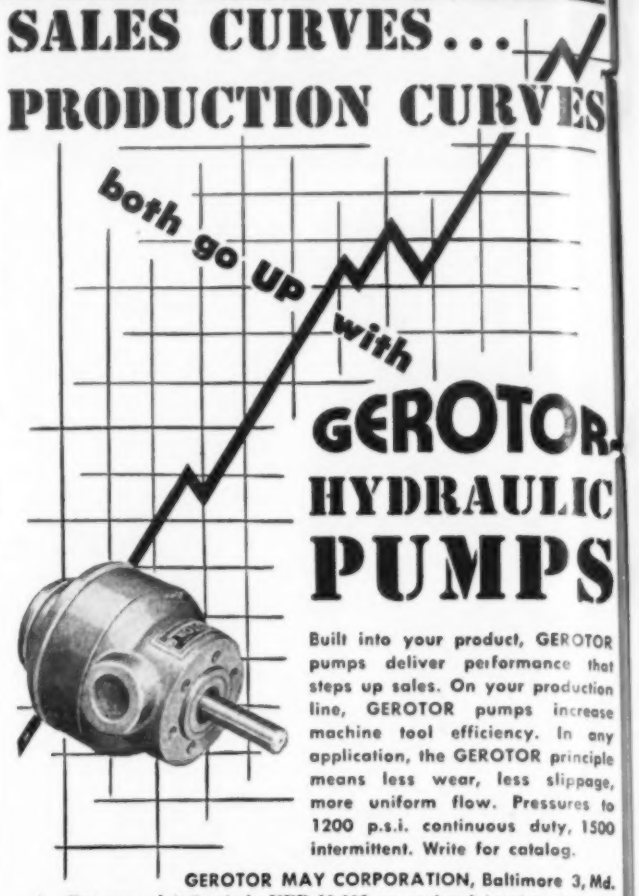
For more details circle NED-10,004 on enclosed inquiry slip

FORK TRUCK CLAMP ATTACHMENT
holds materials between lifting arms

Lifting, transporting, stacking and unpiling of wide variety of materials is possible with Spacemaster gasoline and electric fork trucks equipped with the Master universal clamp attachment. When used as conventional forks, it handles boxes, cases or unit loads weighing up to 1700 lb, 48 in. long, on pallets or skid platforms. Using hydraulic side clamping feature, operator can move rolls or bales, singly or several at a time, compressed or flat, in any position and weighing up to 1400 lb. Lifting arms, operated by hydraulic rams, are adjustable within range spreads of 18 to 46 in. and 23 to 60 in., and can be held in any position of closure without damaging material. Made by **Lewis-Shepard Products Inc.**, 192 Walnut St., Watertown 72, Mass.

For more details circle NED-10,005 on enclosed inquiry slip

SALES CURVES... PRODUCTION CURVES



GEROTOR HYDRAULIC PUMPS

Built into your product, GEROTOR pumps deliver performance that steps up sales. On your production line, GEROTOR pumps increase machine tool efficiency. In any application, the GEROTOR principle means less wear, less slippage, more uniform flow. Pressures to 1200 p.s.i. continuous duty, 1500 intermittent. Write for catalog.

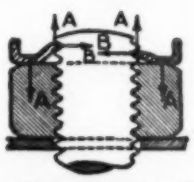
GEROTOR MAY CORPORATION, Baltimore 3, Md.

For more details circle NED-10,006 on enclosed inquiry slip

Both Nut and Bolt are LOCKED TIGHT

Low cost—fast assembly

Because PALNUT Lock Nuts apply on top of ordinary nuts, there are no interfering parts within the nut or between the nut and load to prevent or retard the full application of bolt stress for maximum bolt loading efficiency. A properly tightened nut, locked with a PALNUT, provides a completely vibration-proof, rugged assembly which stays trouble-free during the entire life of your products.



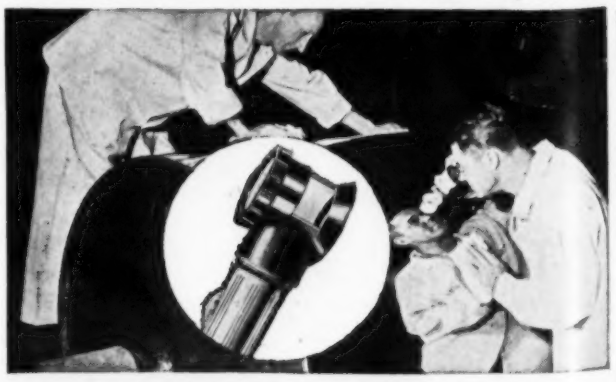
Powerful spring tension (A-A) is exerted upward on the bolt threads and downward on the ordinary nut, while slotted jaws (B-B) close in and grip the bolt like a chuck.

PALNUT Trademark LOCK NUTS

Write for samples and data
THE PALNUT COMPANY
45 Cordier St.
Irvington 11, N. J.

For more details circle NED-10,007 on enclosed inquiry slip

FLASH-O-LENS
Lights and Magnifies
metal surfaces for fast, accurate inspection



Another FLASH-O-LENS at work—this time at Eastman Kodak Company!

You *too* can cut down inspection time and improve product quality by using the simple, handy, low-cost instrument that *spotlights* the work and *magnifies* it at the same time... the FLASH-O-LENS!

Just put a FLASH-O-LENS on the part you're inspecting. Built-in bulb puts light *on* the field of vision—keeps it *out* of user's eyes. Accurately ground lenses give sharply detailed enlargement. Result: time-and-eye-saving inspection, surer maintenance of quality standards. Battery-operated and plug-in models—from $10.65 up. Write for literature on suggested applications, types and prices.

E. W. PIKE & COMPANY
492 NORTH AVE. ELIZABETH, N. J.

For more details circle NED-10,008 on enclosed inquiry slip

Three big quality points make great file-teeth points

The pointed shape you see here in greatly exaggerated size is that of a typical Nicholson file tooth made from Nicholson-specified high-carbon steel—the most practical of all materials for files.

The mottled area is part of a photomicrographed cross section of file *after hardening*. Note the myriad of fine white particles—technically known as iron carbides, and of extreme hardness. Their quantity, size and uniform distribution are carefully controlled in Nicholson's metallurgical practices to assure maximum hardness and wearing qualities.

The extreme sharpness of Nicholson files accounts for their fast cutting ability. This sharpness is controlled by scientifically relating the cutting angles and impact of the teeth-raising chisels to the annealed hardness of the high-carbon steel file blanks. Nicholson carefully controls its annealing practice so that the iron carbide particle size and distribution are "just right" for best sharpness.

NICHOLSON FILE CO., 34 ACORN STREET, PROVIDENCE 1, R. I.
(In Canada, Port Hope, Ont.)

NICHOLSON U.S.A. **NICHOLSON** A FILE FOR EVERY PURPOSE BLACK DIAMOND TRADE MARK

For more details circle **NED-10,009** on enclosed inquiry slip

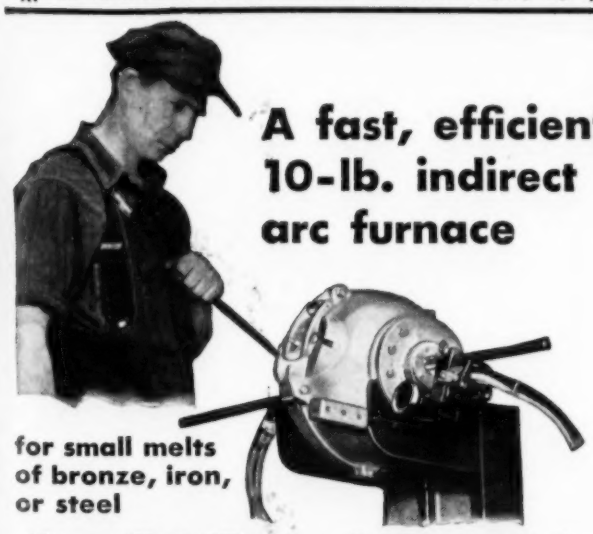
NEW SKY BLAST POWER ROOF VENTILATORS

POWERFUL
POSITIVE
ECONOMICAL
STREAMLINED

SKY-BLAST Roof Ventilators solve most industrial air-moving problems. They create powerful suction, high-velocity discharge; throw heat, fumes, dust high into the air. New features, developed through Propellair's 20-year experience, combine ruggedness and efficiency. Low, symmetrical silhouette. Easily installed, economical, maintenance-free. Write for Bulletin N-680.

PROPELLAIR
DIVISION OF ROBBINS & MYERS, INC.
SPRINGFIELD · OHIO

For more details circle **NED-10,010** on enclosed inquiry slip



A fast, efficient 10-lb. indirect arc furnace

for small melts of bronze, iron, or steel

The type NS, 10 KW, 10 lb. Detroit Electric Furnace provides a unit which melts on short notice, melts speedily, and with excellent control of analysis and characteristics. A 6 pound heat of bronze melts in 6 minutes; an equal heat of alloy steel in 12 to 15 minutes. For research, experimental work, and small production, the NS furnace delivers high efficiency and simple, economical operation.

Write for complete information.

DETROIT ELECTRIC FURNACE DIVISION
KUHLMAN ELECTRIC COMPANY
1060 26th St. • BAY CITY, MICHIGAN

Foreign Representatives: In BRAZIL — Equipamentos Industrias "Eisa" Ltd., Sao Paulo; CHILE, ARGENTINA, PERU and VENEZUELA: M. Castellvi Inc., 150 Broadway, New York 7, N. Y.; MEXICO: Casco, S. de R. L. Atenas 32, Despacho 14, Mexico City, D. F.

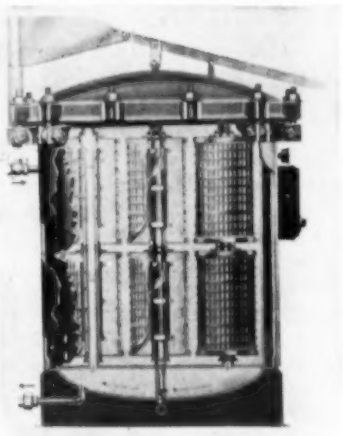
For more details circle **NED-10,011** on enclosed inquiry slip

MECHANICAL DRAFTING PENCIL uses flat, very thin drawing lead

Drawing of continuous straight lines of uniform width is possible with Castell Locktite No. 9400 holder and No. 9040 flat, very thin lead. Held firmly in this drawing instrument, lead measures approximately 0.018-in. thick by 0.097-in. wide and is 4 in. long. Lead is offered in HB, F and H to 9H degrees. Pencil is especially usable for lofting work and all types of drafting and designing where straight line drawing is essential. Made by **A. W. Faber-Castell Pencil Co.,** 43 Dickerson St., Newark 4, N. J.

For more details circle **NED-10,012** on enclosed inquiry slip

INDUSTRIAL OIL FILTER capacities range up to 1000 gpm



Lubricating, fuel, transformer and all types of industrial oils are handled by improved line of Hilco Hyflow filters. Quick-opening cover and lifting device facilitate changing of factory-made filter cartridges or repacking with bulk filtering material. Filtering materials are available for straight-run mineral oils or heavy-duty detergent types. Stationary and portable models have capacities ranging from ½ to 1000 gpm. Made by **Hilliard Corp.,** 40 W. Fourth St., Elmira, N. Y.

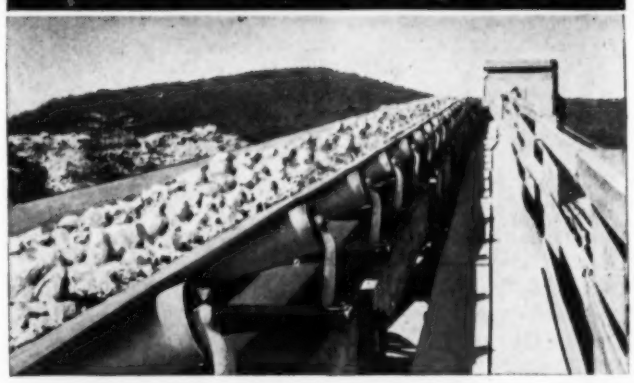
For more details circle **NED-10,013** on enclosed inquiry slip

HYDRAULIC TEST STAND develops pressures up to 30,000 psi

In addition to checking of flexible hose assemblies used in aircraft and hydraulic equipment, this hydraulic test stand can be modified to test valves, cylinders and other equipment. Equipment will provide test pressures up to 5000 psi using large volume pumps and up to 30,000 psi with special booster equipment. Stands can be modified to include accumulator or cycling equipment as well as timing devices. Made by **Superdraulic Corp.,** 14258 Wyoming Ave., Detroit 4, Mich.

For more details circle **NED-10,014** on enclosed inquiry slip

BELTING BUILT FOR THE TOUGH JOBS



HEWITT-ROBINS Belting Lasts Longer . . . Costs Less!

When trouble comes by the ton, the easiest, most dependable, most economical way to move it is on a Hewitt-Robins conveyor belt.

Today engineers the world over instinctively specify Maltese Cross® where the going is really tough, Ajax® for general service, and Conservo® for light work and portable conveyors.

For Hewitt Rubber belting is protected against moisture, oils, flexing, and ply-separation. Maximum strength plus flexibility are assured through extra-tough rubber covers, heavily textile-reinforced.

For details on belting—or for entire belt conveyor systems—write Hewitt Rubber Division, Buffalo 5, N. Y.

HEWITT-ROBINS CONVEYOR BELTING

HEWITT-ROBINS HR **INCORPORATED**

For more details circle **NED-10,015** on enclosed inquiry slip

78% reduction in hand injuries plus 6c per man-hour saved

CASE NO. 207

Problem: High percentage of hand injuries from cuts, acid and heat burns and infections, in plant employing over 1000 men to shear, form and dip-coat sheet steel products. Canvas and neoprene gloves quickly cut or tore, replacement costing over 10c per man-hour on many operations.

Solution: Change-over to heavy NEOX (reinforced neoprene) coated gloves for work with hot metal and acid solutions, and gloves with natural rubber coated palms and thumbs for handling sharp-edged dry sheets. Reduced hand injuries 78%. Gloves also wore 3 to 5 times longer, averaging saving of 6c per man hour.

Plastic, Natural Rubber and NEOX (Reinforced Neoprene)

Safe hands cut costs 5 ways

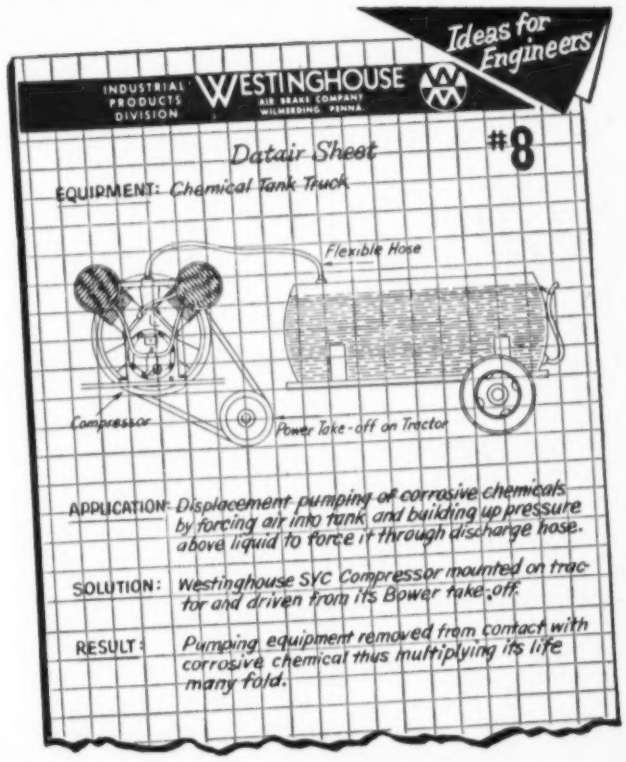
1: Fewer lost time accidents
2: Faster, surer work handling
3: Less spoilage
4: Improved job attitude
5: 40% to 70% savings in usual glove costs to company or employees.

Edmont COATED FABRIC **GLOVES**

Send description of your problem. We will supply free test samples.

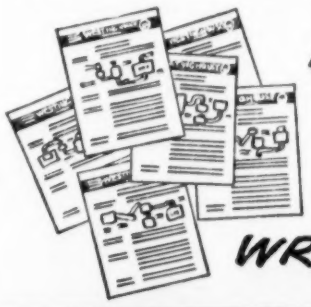
Edmont Manufacturing Company
1240 Walnut St., Coshocton, Ohio
World's largest maker of coated industrial gloves

For more details circle **NED-10,016** on enclosed inquiry slip



So often AIR Solves the Control Problem!

In case after case, Plant Engineers are using W A B Pneumatic devices to solve control problems. The case presented above is an example. Our Engineering Data File provides information concerning this and many others. Sections of it may be applied to your problems. Write for a complete file. No charge.



FREE
This Engineering Data File
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INDUSTRIAL PRODUCTS DIVISION **WESTINGHOUSE** AIR BRAKE COMPANY WILMERDING, PENNA.

Factory Branch: EMERYVILLE, CALIF.
Distributors throughout the United States . . . Consult your Classified Directory. Distributed in Canada by: Canadian Westinghouse Co., Ltd., Hamilton, Ontario.

For more details circle **NED-10,017** on enclosed inquiry slip

NORTHERN HEAVY DUTY HI-LIFT HOISTS

For handling a lot of different loads in general purpose use, Northern Heavy Duty Hi-Lift Hoists will give you wider service per dollar of investment.

for safer, faster material handling at all times

Northern Cranes are designed and built to give you safer, faster overhead material handling at all times.

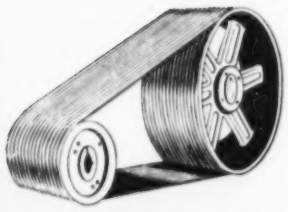
NORTHERN ENGINEERING WORKS
2615 Atwater, Detroit, Mich.

NORTHERN CRANES

For more details circle NED-10,018 on enclosed inquiry slip

CONGRESS SHEAVES and V-BELTS

- Precision built. Soundly engineered. Widely used as original equipment by hundreds of the largest manufacturers of such appliances as washing machines, dryers, laundry equipment and air conditioning installations.
- Congress FHP pulleys are available in attractive 3-color individual boxes, with pulley outside diameter and bore size plainly marked. Simplifies storing-selling.



Immediately Delivery From Stock

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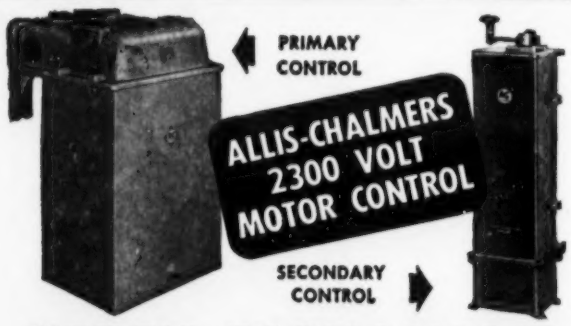
CONGRESS DIAMOND BORED DRIVES
3750 E. OUTER DRIVE, DETROIT 34, MICH.

For more details circle NED-10,019 on enclosed inquiry slip



HERE'S ECONOMICAL Wound Rotor Motor Control

THIS COMBINATION of primary and secondary control for your wound-rotor motors will give you dependable, economical control . . . smooth acceleration and positive speed regulation.

PRIMARY CONTROL. Type 371 Wall Mounted Starters are designed for space saving, low original cost installation. Operating costs are kept down by rolling-wiping contact action, low inertia moving parts, and a completely oil-immersed mechanism that is sealed from the atmosphere.

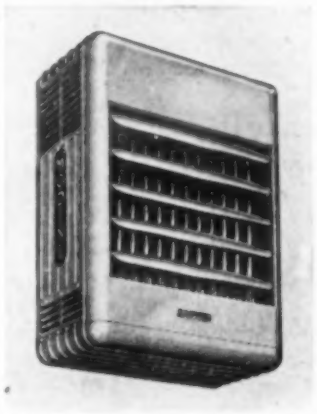
SECONDARY CONTROL. Allis-Chalmers Type 9410 starting duty drum switches have four balanced control points . . . speed regulating switches have five. Both have radial and thrust ball bearings on each end of the shaft for easier, smoother operation.

Bulletin 14B7274 describes Type 371 starters for 2300-volt motors of 350 hp or less. Call your A-C representative or write Allis-Chalmers, Milwaukee 1, Wis. for this bulletin and more information on Type 9410 drum switches.

ALLIS-CHALMERS A-3531

For more details circle NED-10,020 on enclosed inquiry slip

GAS-FIRED UNIT HEATERS
106-lb unit has 105,000 Btu/hr input



Light weight, fast response to thermostatic control, and balanced heating are features of gas-fired unit heaters. Heat exchanger and burners are stainless steel, and exchanger tubes are die-formed to provide their own combustion chambers. Each is individually fired. Units are offered in five sizes ranging from 65,000 to 165,000-Btu per hour input. Illustrated model 105 weighs 106 lb and measures 30 x 21¾ x 12½ in. All models are equipped with built-in draft diverters, automatic safety controls, Bonderized casings and fan guards. They are A.G.A.-approved for use of natural, manufactured, mixed and liquefied petroleum gases. Made by **Modine Mfg. Co.,** 1702 Racine St., Racine, Wis.

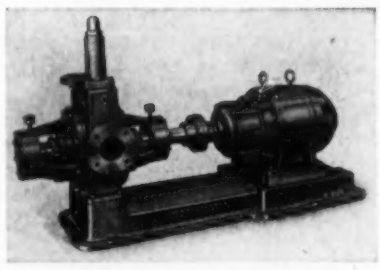
For more details circle NED-10,021 on enclosed inquiry slip

HEADREST GOGGLE
for welding, flame cutting, brazing

Made of one-piece molded plastic with large ventilated inside area, Unigoggle for gas welding, flame cutting and brazing bears firmly against cheeks and forehead to exclude light and heat rays. It can be worn over prescription or safety glasses. Lens is made in No. 3 to 6 shades in standard 2 x 4¼-in. size and is protected by cover glass. Plastic headrest is easily adjusted for size and distributes weight evenly. Telescopic arms with concealed springs allow raising or lowering with one hand. Elastic headband is also available. Made by **Jackson Products,** 31741 Mound Rd., Warren, Mich.

For more details circle NED-10,022 on enclosed inquiry slip

ROTARY PUMPS
have 25 to 1000 gpm ratings



Made in internal and external bearing designs, heavy duty rotary pumps are positive displacement, sliding vane type in which pressure of liquid being pumped maintains contact of vanes against liner. External bearing models are suited for nonlubricating liquids, such as gasoline and kerosene. All have built-in relief valve and can be made with standard fitted, bronze fitted or all-bronze construction. Eight sizes in line have capacities from 25 to 1000 gpm at speeds from 850 to 210 rpm. Made by **Worthington Pump & Machinery Corp.,** 427 Worthington Ave., Harrison, N. J.

For more details circle NED-10,023 on enclosed inquiry slip

POT & PAN CLEANING MACHINE
for heavy duty scrubbing, polishing

Designed for continuous, all-around service, portable Strand Clean-Up machine of flexible shaft type is powered for heavy duty scrubbing, scouring and polishing action on pots, pans and other utensils. It is easily operated for removal of various stains, grease and other materials from aluminum, stainless steel, copper, ironware, enamelware and wood. Machine has two speeds and rubber encased shaft for protection against moisture, vapor and soaps. Standard equipment includes one nylon and one stainless steel wire brush. Other brushes in various sizes and shapes are available. Vertical, tripod and cabinet models are offered. Made by **Balmar Corp.,** N. A. Strand Div., Dept. N, Woodberry, Baltimore 11, Md.

For more details circle NED-10,024 on enclosed inquiry slip

ERASE faster, easier electrically!

Bruning's exclusive 7" eraser... won't "fly out"

No other machine or method erases as quickly, easily and cleanly as the Bruning Electric Erasing Machine.

The 7" eraser (exclusively Bruning's) prevents those eraser "fly outs" which let ordinary machines damage your drawings so often.

Your Bruning machine is "lifetime oiled", runs continuously for an indefinite period without heating. It is quiet and you hold it comfortably like a pencil, permitting full view of your work for erasing accuracy. You operate it with convenient finger-tip control.

FREE FOLDER gives details on exclusive erasing advantages. For your copy write today.

BRUNING

CHARLES BRUNING COMPANY, INC.
Dept. J-121, 100 Reade Street, New York 13, New York

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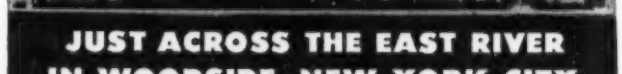
ANOTHER CHAPTER IN THE HISTORY OF LEPEL

Lepel's NEW HOME



JUST ACROSS THE EAST RIVER IN WOODSIDE, NEW YORK CITY

The new building containing our new factory and offices, designed on the most modern architectural lines, reflects the steady gains made by Lepel for a quarter of a century.

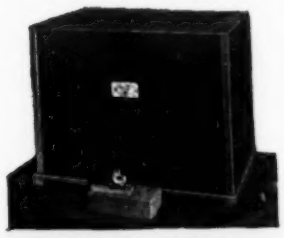
The reputation enjoyed by Lepel in the field of Induction Heating equipment has been made possible by the high quality of the Lepel products and the integrity of the Lepel organization with its pleasant customer relationship.

Lepel HIGH FREQUENCY Induction HEATING UNITS

SPARK GAP CONVERTERS from 4 kw to 30 kw

ELECTRONIC TUBE GENERATORS from 5 kw to 50 kw

ANY LEPEL UNIT DOES THESE JOBS— faster better cheaper
- HARDENING
- BRAZING
- MELTING
- SOLDERING
- ANNEALING



LOW COST 2 KW PORTABLE UNITS Spark Gap operated on 110 volts

Lepel HIGH FREQUENCY LABORATORIES INC

55th STREET and 37th AVENUE, WOODSIDE 77, NEW YORK CITY, N. Y.
Tel. HAvemeyer 6-4580

For more details circle NED-10,026 on enclosed inquiry slip

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AUTOMATIC SAFETY FEATURE

LINEMASTER

"LEKTRO-LOK" FOOT SWITCH

If you need a foot switch that's small, sensitive, safe, choose Lektro-Lok. Mechanical interlock allows only one circuit to function at a time. Operates on teeter-totter principle with selective circuits — yet single cord receptacle cuts costly harness assemblies.

Lektro-Lok weighs only 10 oz. Made to take it—rugged stamped metal case. It's the new, modern, SAFE foot switch from Linemaster, the Leader!

ONLY $5.25 (less in quantities)

Let us quote on your special problems.

Write today for folder and price list.

LINEMASTER the leader

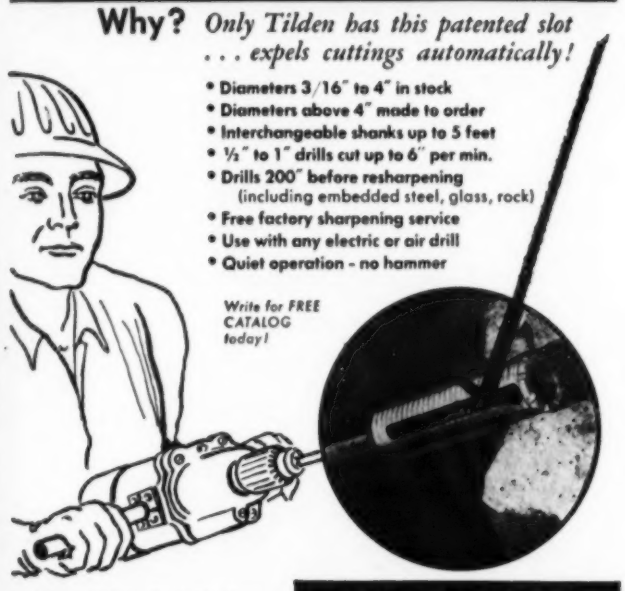
SIMONDS MACHINE CO., INC.
33 VIKING TERRACE • SOUTHBRIDGE, MASS.

For more details circle NED-10,027 on enclosed inquiry slip

DRILL CONCRETE
70% Faster with
TILDEN ROTARY KONKRETE KORE DRILLS

Why? *Only Tilden has this patented slot . . . expels cuttings automatically!*

- Diameters 3/16" to 4" in stock
- Diameters above 4" made to order
- Interchangeable shanks up to 5 feet
- ½" to 1" drills cut up to 6" per min.
- Drills 200" before resharpening (including embedded steel, glass, rock)
- Free factory sharpening service
- Use with any electric or air drill
- Quiet operation - no hammer



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Tilden Rotary Konkrete Kore Drills are standard equipment with utilities, municipalities and thousands of contractors. Used by the U. S. Navy, Air Force and C. A. A.

TILDEN TOOL MANUFACTURING COMPANY
209 Los Molinos • San Clemente, Calif.
BRANCH OFFICE
1144 W. Washington Blvd • Chicago 7, Ill.

SOLD BY BETTER SUPPLY HOUSES EVERYWHERE

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"Weld-Bilt" EQUIPMENT GIVES YOU LONGER SERVICE IN LABOR-SAVING MATERIALS HANDLING

You can SEE the greater strength and durability in WELD-BILT Equipment . . . in heavier arc-welded construction, in sturdier operating parts, in many innovations that assure easier, friction-free operation. Every piece of "Weld-Bilt" equipment is designed to save operator fatigue, protect product and save money both on original cost and maintenance expense.

You can easily PROVE "Weld-Bilt's" superiority through many more years of actual performance in hundreds of plants all over the Nation. It means your lowest possible investment-per-year in time and labor saving.

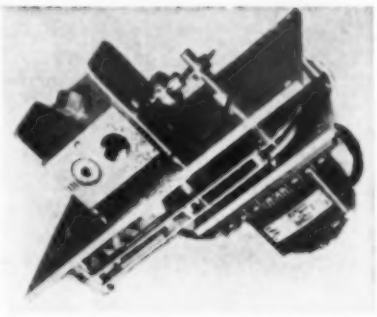
"Weld-Bilt" PRODUCTS
WEST BEND EQUIPMENT CORP. WEST BEND WIS.

Write or wire for prices today . . . or for engineering assistance on your handling problems or plans.

WEST BEND EQUIPMENT CORP.
MATERIALS HANDLING ENGINEERS
311 Water Street, West Bend, Wisconsin

For more details circle NED-10,029 on enclosed inquiry slip

HYDRAULIC-PNEUMATIC SERVO controls remote cylinders accurately



Automatic positioning of control pistons from variables such as pressure, position, tension, flow, force or torque is possible with this Atcotran remote type hydraulic-pneumatic servo system. Accuracy within 0.001-in. is possible. Variables, measured by various types of transmitters, are amplified to servo mechanism which operates a direct control pilot valve in response to electrically transmitted signal. Speed of stroke is controlled accurately in either direction. Made by **Automatic Temperature Control Co.**, 5206 Pulaski Ave., Philadelphia 44, Pa.

For more details circle NED-10,030 on enclosed inquiry slip

PLASTIC WORK GLOVE features flexibility, light weight

Efficient handling of small objects with plastic work gloves is made possible by use of light weight base Jersey fabric. Plyglov line of gloves, either full or palm coated, allow handling of laboratory utensils and small parts with diameters of ¼-in. Easily laundered gloves absorb minimum of odors, oils and water and have good tear strength and abrasion resistance. Identified as model No. 2114, gloves are available in custom style in both women's and men's sizes. Made by **Milburn Co.**, Dept. N, 3245 E. Woodbridge St., Detroit 7, Mich.

For more details circle NED-10,031 on enclosed inquiry slip

HIGH CAPACITY FILTER 14-in. unit allows 100-gpm flow

Adequate filter capacity in hydraulic and low pressure liquid recirculating machinery is possible with installation of only one Synclinal filter available in 75 and 100-gpm models. Former measures 12½ in. long including coupling nut and has diameter of 6 in., while latter is 14 x 6½ in. overall. Filters are furnished in both line and sump types. Mesh sizes range up to 200. Simple disassembling and cleaning plus room for foreign matter accumulation are features. Coupling nut fits 2½-in. pipe. Made by **Marvel Engineering Co.**, Room 200, 625 W. Jackson Blvd., Chicago 6, Ill.

For more details circle NED-10,032 on enclosed inquiry slip

DO YOU CUT OFF SHAPES like these?

If so, let us give you SOUND, SOLID REASONS for using the MOTCH & MERRYWEATHER Triple-Chip Saw Blade

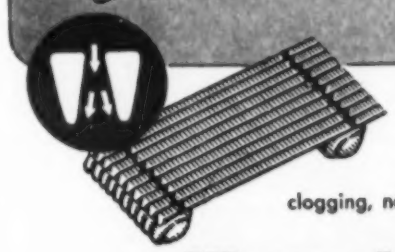
"Hi-Lo" principle of grinding teeth produces more work for less money than any comparable method. Low operating cost; faster cutting, clean and burrless; longer tool life. Investigate M. & M. Triple-Chip solid cut-off saw blades now.

Ask for Bulletin No. 201-N.

THE MOTCH & MERRYWEATHER MACHINERY CO.
PENTON BUILDING • CLEVELAND 13, OHIO
COMMAND OUR UNPARALLELED EXPERIENCE IN CIRCULAR SAWING

For more details circle NED-10,033 on enclosed inquiry slip

BY ANY *standard!*



Cross section at left shows how KLEEN-SLOT SCREENS operate on a non-clogging, non-blinding principle.

Kleenslot
WEDGE-WIRE PREPARATION SCREENS

are the last word in efficiency of operation. Long life, precision workmanship and low cost make these screens the definite leader in the field. In spite of the tremendous demand for Wedge Wire Kleenslot Screens our plant is still able to fulfill orders promptly

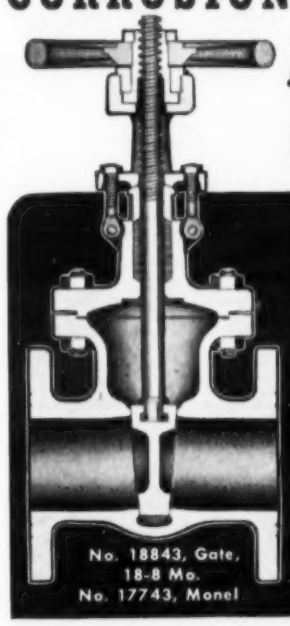
SEND FOR OUR ILLUSTRATED CATALOG

Wedge-Wire CORPORATION
5604 CLARK AVE. CLEVELAND 2, OHIO

For more details circle NED-10,034 on enclosed inquiry slip

BUYER'S CHOICE IN CORROSION-RESISTANT ALLOY VALVES

CRANE



GATES, GLOBES, CHECKS, AND PLUG GATES—IN 18-8 MO ALLOY STEEL OR MONEL

WORKING PRESSURES
150 pounds liquid or gas
500 deg. F. max. temp.

No. 18843, Gate, 18-8 Mo.
No. 17743, Monel

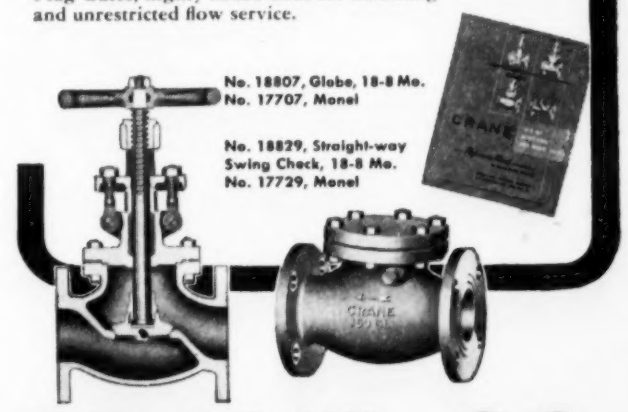
For widest choice of corrosive service valves, see this dual Crane line. Includes gates, globes, plug gates, and checks. In each valve, all parts in contact with flow are finest quality Crane 18-8 Mo or Monel—the most widely effective corrosion-resistant alloys. Complete suitability for your needs assured by Crane Quality design in every detail.

PRESSURE-TIGHT STEM SEAL—unusually deep stuffing box assures tightness at stem; two-piece bolted gland equalizes pressure on packing, prevents stem binding.

ACCURATE SEATING—fully guided disc on Gate Valves cannot jam or get out of line. Free swivel disc-stem connection on Globe Valves helps to seat disc accurately and tightly upon narrow line bearing 35° taper seating surface.

EXTRA-TIGHT BONNET JOINT—male and female bolted bonnet joint fully retains gasket, minimizes danger of leakage.

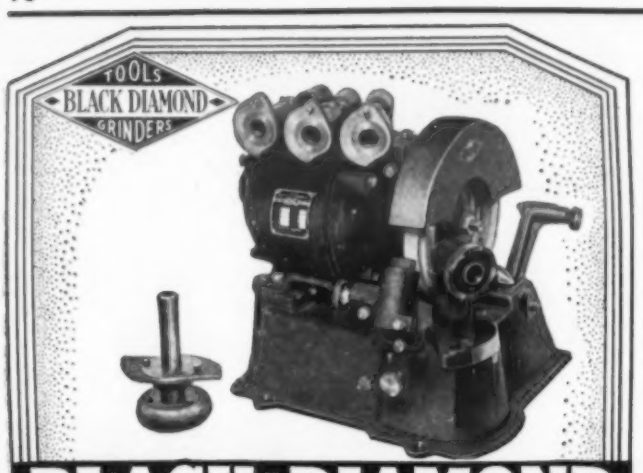
SEND FOR CIRCULAR AD-1855—or ask your Crane Representative—for complete information about Crane Alloy Gates and Globes; Checks—in Straight-way and Y-Patterns; also Plug Gates, highly suited both for throttling and unrestricted flow service.



CRANE CO.

General Offices: 836 S. Michigan Avenue, Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas
VALVES • FITTINGS • PIPE • PLUMBING • HEATING

For more details circle NED-10,035 on enclosed inquiry slip



BLACK DIAMOND
PRECISION DRILL GRINDER

YOUR MACHINE SHOP NEEDS A BLACK DIAMOND—FOR PRECISION SHARPENING OF ALL SMALL DRILLS—TO REDUCE DRILLING COSTS, DRILL BREAKAGE AND WORK REJECTS—TO SPEED PRODUCTION.

Black Diamond Grinders cut 50% and more on drill sharpening and drilling costs. They sharpen small drills so efficiently and accurately that drill breakage and work spoilage are tremendously reduced.

Anyone can operate a Black Diamond, can keep all small drills sharp—and true centered with smooth lips accurately ground to the same length, correct angle and clearance for fast, precision drilling.

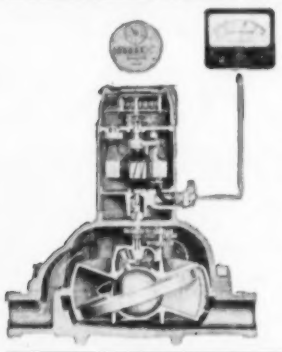
The built-in Diamond Point Dresser, is instantly available to keep the grinding wheel sharp cutting and the Web Thinning Attachment cares for all types of Notched Points.

If you use small drills, singly or in gangs, this moderately priced grinder will keep any quantity sharp, always ready for use. You should own a Black Diamond. Write for New Bulletin.

BLACK DIAMOND SAW & MACHINE WORKS, INC.
NATICK, MASSACHUSETTS

For more details circle **NED-10,036** on enclosed inquiry slip

Remote indication and control of liquid flow



Hays VERIFLOW meter accurately measures, indicates, and totals the flow of corrosive and hard-to-meter liquids without using weigh tanks, orifice plates, or gage sticks.

With the Hays VERITROL you simply set a knob at the rate of flow desired . . . then, the VERITROL controls the flow of liquid at that set-rate.

for corrosive liquids
Acetic Acid, Aluminum Potassium Sulphate, Ammonia, Calcium Compounds, Carbolic Acid, Formaldehyde, Fruit and Vegetable Juices, Hydrogen Peroxide, Phosphoric Acid, Potassium Hydroxide, Sodium Compounds, Sulphuric Acid (concentrated), Stearic Acid, and many others

Send for a complete description of Hays Veriflow Meter and Veritrol. Bulletin 48-766

THE HAYS CORPORATION
MICHIGAN CITY 15, INDIANA

For more details circle **NED-10,037** on enclosed inquiry slip

Here's **BIG HELP IN TERMINAL WIRING!**

The correct wire to correct terminal every time!

The New **JONES FANNING STRIP**

Connections are made through Fanning Strip, on bench or anywhere apart from barrier strip, and quickly slipped into assembly.

Designed for use with Jones Barrier Terminal Strips Nos. 141 and 142, for 1 to 20 terminals.

9-141 Barrier Strip

Simplifies and facilitates soldering. Insures positive correct connections. Saves time. Ideal for harness or cable assembly. Strong construction: Brass terminals, cadmium plated. Heavy bakelite mounting.

9-161 Fanning Strip. Pat. applied for.

Send for complete data on this new basic improvement!

Jones HOWARD B. JONES DIVISION
CINCH MANUFACTURING CORPORATION
CHICAGO 24 ILLINOIS
SUBSIDIARY OF UNITED-CARR FASTENER CORP.

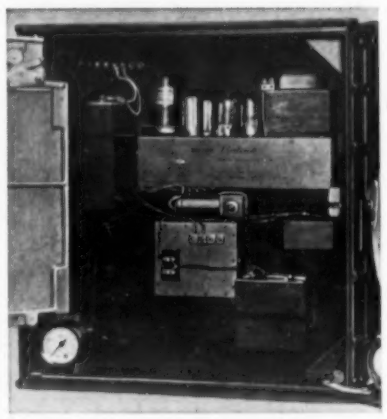
For more details circle **NED-10,038** on enclosed inquiry slip

CARBOY PUMP
dispenses corrosive liquids safely

Constructed of Pyrex tubing and check valves with replaceable Teflon pumping ring, Carboypump dispenses corrosive and other liquids quickly and safely from carboys and other large containers. Heavy as well as light liquids are handled by positive displacement type mechanism. Ball joint connects spout to pump body. This manual pump is particularly usable in laboratories, pilot plants and industrial plants. Made by **Laboratory Industries, Inc.,** 4708 W. North Ave., Chicago 39, Ill.

For more details circle **NED-10,039** on enclosed inquiry slip

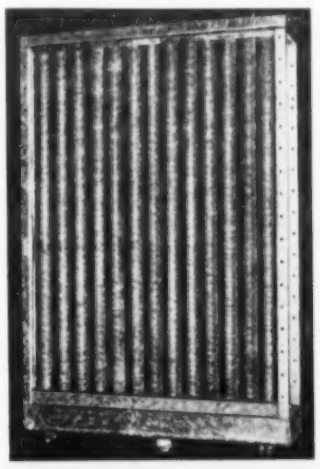
NARROW SPAN POTENTIOMETER
measures spans of 100 microvolts



Direct current potentials of order of microvolts can be measured by narrow span potentiometer. It permits measurements of spans as narrow as 100 microvolts and is usable in laboratory or on production line to measure signals with potential as low as 0.1-microvolt. With appropriate primary measuring elements, instrument is also applicable to measurement of differential temperatures and determination of slight temperature variations in small objects through use of radiation pyrometry. Photo shows interior view of amplifier and measuring circuit resistor assembly. Made by **Minneapolis-Honeywell Regulator Co.,** Brown Instruments Div., Wayne & Roberts Aves., Philadelphia 44, Pa.

For more details circle **NED-10,040** on enclosed inquiry slip

HEAVY DUTY HEATING COIL
has live steam, condensate sections

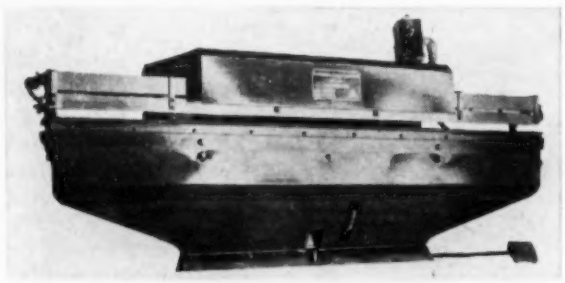


Freezing is prevented in heavy duty heating coils by having steam and condensate chambers located adjacent to each other so that steam in supply chamber keeps condensate chamber warm. To steam chamber are welded standard ⅜-in. pipes which are inside 1-in. pipes, latter being welded to condensate chamber. Steam flows from steam chamber through ⅜-in. pipes and escapes into larger pipe where it is reduced to condensate. Welded joints eliminate leak possibilities and galvanized coating protects against corrosion. Transfer surface is made of 1-in. full weight pipe on which steel fin is wound spirally. Blast heaters are made in four widths, fifteen lengths and in one, two and three-row depths. Made by **Industrial Mfg. & Engineering Co.,** 3847 N. Ravenswood Ave., Chicago 13, Ill.

For more details circle **NED-10,041** on enclosed inquiry slip

PACKAGE SEALING MACHINE
seals 54-in. wide plastic barriers

Designed to seal all types of domestic and military heavy coated or laminated heat-sealing barriers, Universal heat sealer model UHS-54 can produce ¼ to 1¼-in. wide seals



of any length up to 54 in. at a single stroke. Heating elements maintain adjustable, thermostat-controlled temperatures up to 550° F on sealing surface. Controlled by foot switch, machine applies pressures up to 1500 lb which are adjusted by positive action of cams and cushioned spring-mounted heating bar. Made by **Automatic Scale Co.,** Dept. J, P. O. Box 46, Village Station, New York 14, N. Y.

For more details circle **NED-10,042** on enclosed inquiry slip

For Safety's Sake Use
DAYTON SAFETY LADDERS

Maintenance men everywhere rely on Dayton Safety Ladders for maximum safety and convenience. Daytons are constructed of tested airplane spruce and reinforced with rigid steel supports to give great strength and lightness of weight.

Handrails of steel guard the large roomy platform for added safety. Half of platform can be raised to form an extra step, when needed. These famous ladders can be set up instantly, are easy to carry and fold compactly for storing. Automatic locking feature insures safety while ladder is in use.

Sizes 3 feet to 16 feet in height (measured from ground to platform) with standard rubber safety shoes at no extra cost.

Write today for Bulletin No. 10

DAYTON SAFETY LADDER CO.
2339 GILBERT AVE. CINCINNATI, OHIO
In Canada—Safety Supply Company—Toronto

For more details circle **NED-10,043** on enclosed inquiry slip

MULTIPLE-USE, RUBBER-CUSHIONED
Brightboy
ABRASIVES
widening production applications

- *Results show time savings up to 50%; burring, finishing, cleaning, polishing, in one operation*
- *Application versatility widened in working all metals, plastics, laminated materials, wood, glass*
- *Manufacturers of defense and civilian-use products, parts and assemblies benefit from new methods and applications.*

SAVES TIME: Bridges the gap between the rough grind and the buff. Works to close tolerances; can be shaped to contour. Produces a wide variety of conventional and special finishes and patterns; frequently the final polish. Requires no before-use preparation or dressing; no skilled labor to handle it.

SOME GENERAL USES: Removing light digs, tool and heat marks. Cleaning welded and soldered joints. Finishing dies and molds. Burring and finishing stampings, castings, machined and molded parts.

WELDON ROBERTS Brightboy

Ask your dealer about Brightboy. Write the Brightboy Service Department on any problems where light finishing and precision surfacing methods and production are involved.

BRIGHTBOY INDUSTRIAL DIVISION
WELDON ROBERTS RUBBER CO.
NEWARK 7 N. J.

America's Pioneer Manufacturers of Rubber-Bonded Abrasives

For more details circle **NED-10,044** on enclosed inquiry slip

GET BETTER PRODUCTION HEATING with WATLOW HOT PLATES

For many heating and pre-heating operations requiring wide range of accurately controlled temperatures . . . Surface plate is highly polished steel—no plating to flake off. Leveling feet. Rectangular shapes in almost any size to order. Controls for temperatures up to 550° F, 3—heat snap switches for 550° to 750°.

Send for the Watlow Electric Heating Units Catalog.

SPECIALISTS IN ELECTRIC HEATING UNITS

WATLOW
ELECTRIC MANUFACTURING COMPANY
1314 N. 23d St. St. Louis 6, Mo.

For more details circle **NED-10,045** on enclosed inquiry slip

"HAYNES STELLITE"
Trade-Mark

GUIDE ROLLS

Resist Abrasion . . . Thermal and Mechanical Shock

Because HAYNES STELLITE guide rolls have no temper to lose when handling hot steel, they have excellent strength and wear resistance in service. The guides also have good resistance to thermal and mechanical shock.

Loose particles of steel will not adhere to guides made of HAYNES STELLITE alloy. They are extremely resistant to oxidation at high temperatures, have a low frictional coefficient, and will take and keep a high polish.

For further information about HAYNES STELLITE alloy guides for handling bars, rods, and wire, write to our General Offices in Kokomo, Indiana.

Haynes Stellite Company
A Division of Union Carbide and Carbon Corporation
UCC
General Office and Works: Kokomo, Indiana
"Haynes Stellite" is a trade-mark of Union Carbide and Carbon Corporation.

For more details circle **NED-10,046** on enclosed inquiry slip

CAN YOU USE 60,000 lbs. THRUST in a Portable Package?

- CUTS ROD, CHAIN, WIRE
- PUNCHES RIVETS, SWEDGES AND WHAT HAVE YOU?

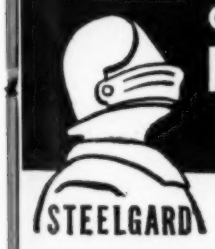
Here is one of the most versatile tools in industry. The Guillotine's tremendous power (30 tons thrust) is being utilized to cut 1" steel rod and chain, 1¾" wire rope, as well as 3½" power cable. Other model Guillotines are available for punching holes or test slugs in steel plates and sheets and for squeezing cold rivets up to ⅝". Fast . . . only 2½ seconds for the cutting cycle. Easy to operate, compact, requires virtually no maintenance. Available with a variety of pump units. Write today.

Dept. NE-12
MANCO MFG. CO., Bradley, Illinois

WRITE FOR ILLUSTRATED BULLETIN

For more details circle **NED-10,047** on enclosed inquiry slip

Head and Shoulders Over Oily Rust Preventives FOR INDOOR RUST PROTECTION



Add a small amount of STEELGARD to any tap water to make a powerful rust preventive for indoor applications replacing ordinary oil and grease type preventives.

Made in several different grades, STEELGARDS give a flexibility heretofore not practical in ordinary rust preventives. For example, no matter what type of film is required, be it completely dry, waxy, oily, hard, invisible, easily soluble or water soluble only once, there is a STEELGARD to meet the requirement. Treated surfaces may be wet or dry when the STEELGARD is applied with identical results, and the water thin consistency of the STEELGARD solution will assure complete and even coverage of the treated parts.

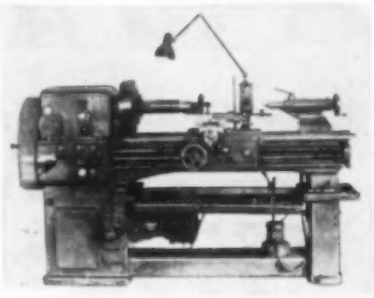
Some grades of STEELGARD combine the features of a rust preventive and a water soluble solvent; others combine in a single product a rust preventive and a drawing lubricant. In every case only one application is necessary.

For the complete story of STEELGARD, write us for details.

Haas MILLER Corp.
4th & BRISTOL STS. • PHILA. 40, PA.

For more details circle **NED-10,048** on enclosed inquiry slip

ENGINE LATHE
geared head model has 13-in. swing



This Italian made Dimco geared head engine lathe is available as high speed model with range of 52 to 2000 rpm and standard model with 26 to 1000 rpm range. Both models of DBC-175 machine have 13-in. swing, eight speeds and are powered by 3-hp motor. Lathe has five longitudinal and five cross feeds accomplished without gear change by dial in Norton box. Lead screw and feed bar operate independently. Five thread ranges are obtained through quick-change gears, with one extra gear for cutting extremely fine threads. Removable gap permits maximum swing of 20¾ in. for 4½ in. in front of face plate. Four-jaw chuck, built-in coolant system, steady rest and tool post are standard. Distributed by **Kelvin Systems Corp.**, Dept. D, 53 Water St., South Norwalk, Conn.

For more details circle **NED-10,049** on enclosed inquiry slip

HEAVY DUTY METAL PRIMER
used with conventional, resin paints

Rust inhibitive heavy duty P-50 metal primer is applicable even to corroded surfaces and can be used with either conventional paint or active-solvent top coats. Being a heavy bodied material, it deposits a relatively heavy primer film which tends to level out rough surfaces and provide extra protection at sharp edges, rivets and other vulnerable points. It is usable on ferrous or nonferrous metals. Made by **Prufcoat Laboratories, Inc.**, 50 E. 42nd St., New York 17, N. Y.

For more details circle **NED-10,050** on enclosed inquiry slip

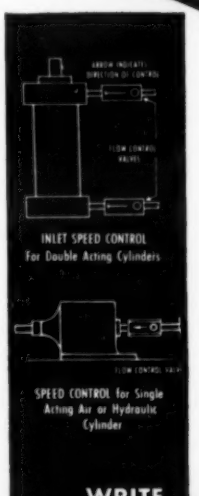
SWINGING RUBBER DOOR
absorbs shock of truck opening

So light and flexible that it can be bent at right angles, this 2½-in. thick swinging rubber door withstands impacts caused by power trucks pushing them open. It swings open at a touch, absorbs shock of the push and returns to normal closed position. Actually a reinforced rubber air container, door is made of outer layer of heavy cloth and rubber covering frame of 2-in. rubber tubing. Support and resiliency are provided by 15 to 25 inflated Dewey & Almy Chemical Co. rubber bladders. Door has good insulation value and smooth outside surface. Suspension is on hinges attached to steel strips running along one side. Made by **Stic-Klip Mfg. Co.**, Door Dept., 50 Regent, Cambridge, Mass.

For more details circle **NED-10,051** on enclosed inquiry slip

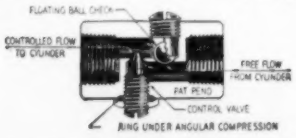
FLOW CONTROL VALVE

for Cylinder Speed Adjustments over a WIDE RANGE IN AIR OR HYDRAULIC USE



The Pneu-Trol Flow Control Valve combines an efficient Stainless Steel FLOATING BALL CHECK which opens and closes at the slightest change in flow direction, with a Vernier Type VARIABLE NEEDLE ORIFICE adjustment in a compact control which has widened air and hydraulic cylinder application by providing precise control of cylinder action. Modifications of the Pneu-Trol Valve are available as Plain Check, check with Fixed Orifice (orifice drilled by customer in the Standard Check Valve), Needle Valve and Velocity Limiting Check, as illustrated at left. All Pneu-Trol Valves are made from bar stock in brass (up to 1000 psi) or steel (5000 psi) or other body metals to your specifications. All internal parts are Stainless. All valves available in 5 sizes—⅛", ¼", ⅜", ½", and ¾".

Attractive prices — immediate delivery. Write for illustrated circular and price list.



WRITE

Pneu-Trol Devices, Inc.
1432 N. Keating Ave., Chicago, Ill.

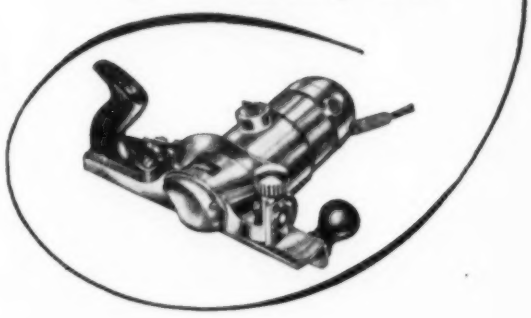
For more details circle **NED-10,052** on enclosed inquiry slip

For more details circle **NED-10,053** on enclosed inquiry slip

With this camera

STANLEY

vastly improved its electric plane



The solution to many design improvement problems lies hidden in parts moving too fast to see.

Stanley Works engineers had just such a problem with an electric plane—and found the answer with the aid of the Kodak High Speed Camera. When the motion was seen slowed down as much as 200 times, required design changes were readily apparent—changes which resulted in tremendously improved operation.

You can study countless problems of high speed mechanical motion and fluid flow with this single, complete unit. Taking up to 3200 pictures a second, it puts the visual facts you need on 16mm film for study whenever you wish. A new attachment permits simultaneous recording of oscillograph traces and physical action, if electrical aspects are important.

See for yourself how others have used this instrument to stretch a second of time to three minutes. Just send for your copy of the booklet, "Magnifying Time." Write to Eastman Kodak Company, Industrial Photographic Division, Rochester 4, N. Y.

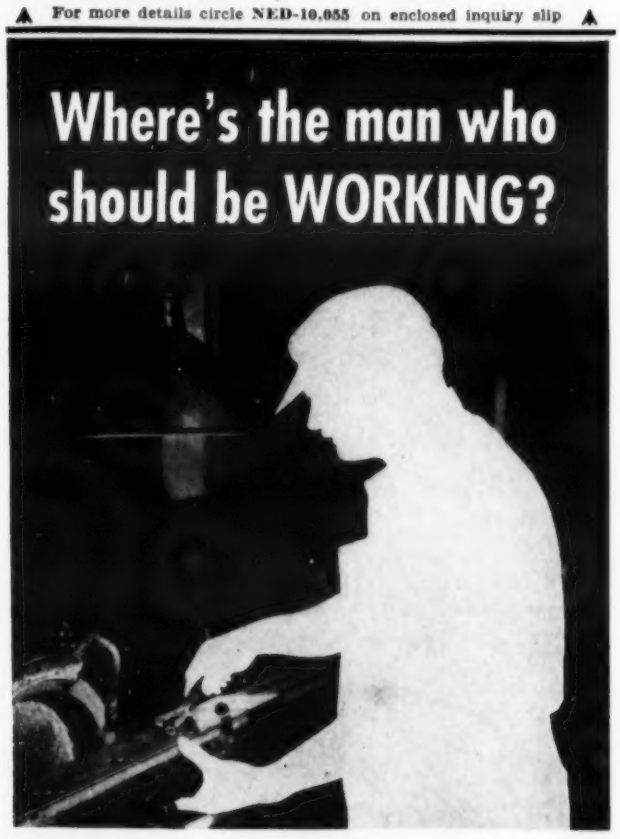
the Kodak HIGH SPEED Camera

Kodak
TRADE-MARK

For more details circle **NED-10,054** on enclosed inquiry slip

• 2" Hard or Soft Wood
• Curves of All Types
• Insertions
• Plastics

▲ For more details circle NED-10,055 on enclosed inquiry slip ▲



He's busy WALKING—but with Executone he'd be on the job!

Executone voice-to-voice communication eliminates the need for anyone leaving his work to get information, give instructions, order material, locate other personnel.

Engineers, secretaries, production men, clerks or executives *all* get more work done *faster*—without taking a single step! Executone saves hundreds of working hours every week! Everyone stays on the job—has instant contact with everyone else at all times!

Executone relieves switchboards of "inside calls"—helps step up production and efficiency.

Inexpensively priced, Executone quickly pays for itself. Mail coupon today!

Executone
COMMUNICATION & SOUND SYSTEMS

GET THE FACTS

EXECUTONE, INC., Dept. L-3.
415 Lexington Ave., New York 17, N. Y.

Without obligation, please let me have:
☐ The name of your local Distributor.
☐ Free descriptive literature.

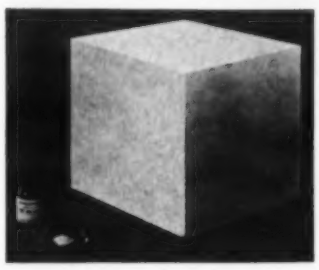
Name.....Title.....
Firm.....
Address.....City.....

In Canada—331 Bartlett Ave., Toronto

▲ For more details circle NED-10,056 on enclosed inquiry slip ▲

New Processes and Materials

RUSTPROOFING CRYSTALS give off vapor which acts as thin protective layer

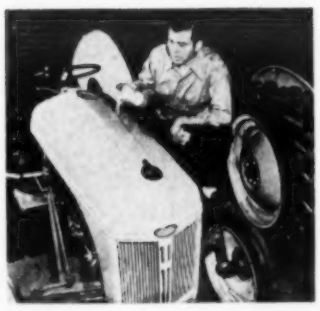


Metal parts, assemblies, instruments and finished products can be protected during shipment, storage and through various processing steps by VPI amine nitrate crystals. Being slightly volatile at atmospheric temperatures, crystals give off vapors which are carried by convection and diffusion to all surfaces of metal, where they condense to provide a thin protective layer.

Powder-like substance is placed in package which encloses parts, or blown into area to be protected. It can also be placed in water or alcohol solution for covering metal parts in tote boxes. Advanced stages of corrosion can be arrested by crystals. Metal parts so protected are ready for instant use. One gram of VPI crystals will protect 1 cu ft of metal parts or surface for periods up to 1 year. Use can also be as inhibitors in hydraulic fluids and for corrosion resistance in water soluble paints. Made by **Shell Oil Co.**, Dept. NED, 50 W. 50th St., New York 20, N. Y.

▲ For more details circle NED-10,057 on enclosed inquiry slip ▲

FACTORY FINISH TOUCH-UP KIT is self-contained lacquer spray gun



Means for touching up scratched or damaged finish of equipment shipped in knock-down form and assembled at destination is provided by Powr-Pak aerosol type lacquer spray unit. These self-contained spray guns are supplied to the original equipment manufacturer filled with factory finish. One is packaged with each shipment. After touch-up work is completed, unused paint in spray can will keep indefinitely and is reusable at any time for subsequent touch-up of equipment by owner. Unit is supplied with custom label for any manufacturer by **Powr-Pak, Inc.**, 1488-A Barnum Ave., Bridgeport, Conn.

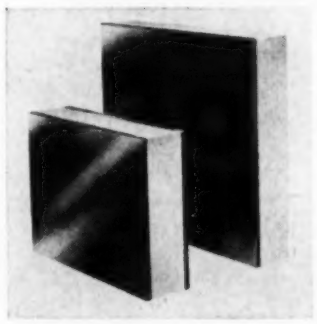
▲ For more details circle NED-10,058 on enclosed inquiry slip ▲

SYNTHETIC WAX has self-emulsification property

Unusual self-emulsification property of Aquawax, a synthetic product, helps cut costs and save time in manufacture of plastic starches, and in finishing of textiles, leather, paper, thread and cord. Lasting emulsion can be made by melting wax and adding hot water. It is designed to duplicate Japan wax in all essential characteristics. Made by **Concord Chemical Co.**, Moorestown 3, N. J.

▲ For more details circle NED-10,059 on enclosed inquiry slip ▲

METAL-SURFACED DIELECTRICS wide variety of dielectric materials and metals can be bonded together



Bond structure in Chemelec-Multi-Bond series of metal-surfaced dielectric materials is micro-crystalline in nature and gradually changes from pure dielectric to pure metal. Dielectric sheets which can be metallized on one or both surfaces include those made of pure fluorocarbon resins and their respective mixtures with asbestos, mica, Fiberglas, glass, ceramics, quartz, Zero-Plast, calcium fluoride or calcium silicate. Standard thicknesses of dielectric range from 0.030 to 1.50 in., and of conducting metal surface from 0.004 to 0.25-in.

Metal surfaces available include aluminum, boron carbide, copper, Alnico, Monel, lead, Mu metal, solder, tin, magnesium, iron, steel, molybdenum, nickel, Nichrome, zinc, bronze, brass and precious metals. Product has no acute strain point caused by unequal rates of thermal expansion and withstands severe mechanical shock because of elastic properties of fluorocarbon and interlocking nature of bond. Standard sheets are 8 x 8, 12 x 12, 24 x 24 and 36 x 36 in. Made by **United States Gasket Co.**, Fluorocarbon Products Div., Camden 1, N. J.

▲ For more details circle NED-10,060 on enclosed inquiry slip ▲

PROTECT Your Oil or Steam Lines Against Leaky Joints with KEY GRAPHITE PASTE

Thread and gasket connections on oil lines . . . either hot or cold . . . or high pressure steam lines . . . will not leak when sealed with Key Graphite Paste.

This sealing compound expands when it is heated, forming a perfect seal. Assembled joints will not freeze in service. Key preserves threads and gaskets and, above all, it is economical to use because it goes several times further than ordinary pipe dopes.

Ask your jobber for Key Graphite Paste or take advantage of our FREE sample offer.

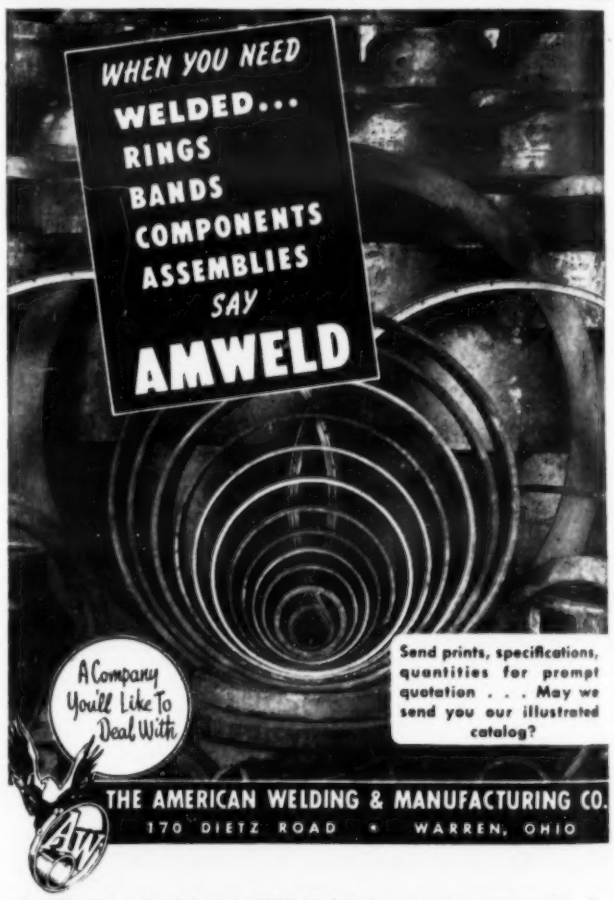
Send For FREE SAMPLE

Try Key Graphite Paste at our expense

KEY Company

KEY COMPANY
2601 McCasland Ave., East St. Louis, Ill.

▲ For more details circle NED-10,061 on enclosed inquiry slip ▲



▲ For more details circle NED-10,062 on enclosed inquiry slip ▲

Send for this new booklet—it tells how you can help out in the emergency facing the nation.

Many thousands of manufacturing plants now face serious shortages of steel and products made of steel.

Unless the steel mills and foundries get more *scrap* iron and steel, it will be impossible to meet current demands for both military and civilian production.

You have the needed scrap—in the form of "idle" iron and steel: obsolete machinery, no-longer-usable jigs and fixtures, chain, gears, pulleys, pipe, etc.

Set up a Scrap Salvage Program in your plant* and help keep the steel coming! Non-ferrous scrap is needed, too!

SCRAPPY SAYS: AID DEFENSE MORE SCRAP TODAY... MORE STEEL TOMORROW

*For copy of "how-to-do-it" booklet, address Advertising Council, 25 W. 45 St., New York 19, N. Y.

NEW EQUIPMENT DIGEST

▲ For more details circle NED-10,063 on enclosed inquiry slip ▲

Receptacles for FS-FD Pylet bodies

Watertight Plugs

Watertight Plugs and Receptacles WITH TRIPLOC CONTACT UNITS

These substantially built plugs and receptacles are equipped with Triploc contact units and are watertight for use as floodlight connections or for any other type of portable electrical equipment where weather protection is needed. Types include 1, 2, 3, 4, 6, and 8 pole units. Receptacles are galvanized cast iron with brass cap. Plugs are cast aluminum alloy with threaded nut and rubber bushing cord grip. Female contact units can be mounted in plug shell as well as in receptacle housing, as all contact units are interchangeable and reversible. For any type of outdoor plug and receptacle connections refer to your Pylet Catalog for complete listings.

SINCE 1897

THE PYLE-NATIONAL COMPANY

1342 NORTH KOSTNER AVENUE, CHICAGO 51, ILLINOIS

For more details circle NED-10,064 on enclosed inquiry slip

Big MAN-HOUR Savings

with Belt portable handling equipment, built especially for a variety of industrial jobs!

Stop your material-handling profit leaks by using lightweight, portable and inexpensive Belt conveyor equipment. Reduce the time and cost of scoop-shovel jobs, stacking and storing, loading and unloading packaged goods and bulk materials.

WRITE TODAY FOR PRICES AND LITERATURE!

Lengths—6, 8 or 10 ft. • height of undercarriage easily adjustable • will handle 100 lb. distributed load, 25 lb. maximum unit load • aircraft-quality, aluminum-alloy frame construction • 50 f.p.m. chain speed.

Pat. Pend.

BELT Handy-Handler, Model U

Pat. Pend.

BELT Versaveyor, Bag and Box Handler

Overall lengths—13, 15, 17 or 19 ft. • 18-in. bed • can be operated with or without either or both undercarriages • 60 f.p.m. belt speed • aluminum-alloy frame • 600 lb. distributed load • 150 lb. unit load.

BELT

Model S Handy-Handler

Standard 16-ft. length; also has 4-ft. extension section (special lengths available) • tough, aluminum-alloy construction • weighs 97 lbs. without the easily detachable power unit • can be used with or without dolly.

Pat. Pend.

BELT THE BELT CORPORATION

7402 STAHL ROAD ORIENT, OHIO

For more details circle NED-10,065 on enclosed inquiry slip

New Processes & Materials

WIRE & CABLE KIT
desk-size unit holds 12 types

Selected assortment of most frequently used miniature and subminiature wires and cables is contained in this desk-size kit. Kit provides means of examination, comparison and trial of wires and cables used in electronic developments. Refills and production quantities of all types and sizes are available. Types of stranded wire included are hook up, shielded lead (cotton and plastic covered), two and three conductor cable, shielded two and four conductor cable, cotton covered twisted pair and shielded parallel pair. Quantities of each type vary from 50 to 500 ft in kit. Also available is 1482 kit, containing twelve 500-ft spools of No. 30 hook up wire in 12 different bright colors. Available from **Tensolite Insulated Wire Co.**, Tarrytown, N. Y.

For more details circle NED-10,066 on enclosed inquiry slip

TRANSLUCENT PLASTIC SHEETING
building material made in flat panels

Transmitting light freely, Alsynite translucent plastic sheeting is now available in flat panel form. This non-transparent material is usable in variety of structural and decorative applications. It is made by combining resins and glass fibers under heat and pressure into sheets possessing strength and permanence. Material weighs about 8 oz per square foot, is highly fire resistant and will not crack, craze, warp, sag or mildew. It is unaffected by humidity, salt water, sunlight, heat, cold or mild acids. Flat sheets, as well as three standard corrugations and curved sheets, are available. Made by **Alsynite Co. of America**, Dept. 12, 4654 DeSoto St., San Diego 9, Calif.

For more details circle NED-10,067 on enclosed inquiry slip

SOLDERING FLUX
has reduced corrosive reaction

Developed for use in soldering Monel, steel, black iron, copper, brass, bronze and other metals, Lytestone soldering flux is buffered to reduce corrosive reaction. It is made to remove surface oxides and has strong scavenging action on low tin solders. Powerful enough to solder on black iron, flux lowers surface tension of molten solder and increases fluidity, causing improvement in spreading qualities of low tin content solders. Flux residue remaining is soluble in water. Flux can also be carried on top of metal bath for dip soldering. Photograph shows sweat joint made without (left) and with (right) Lytestone flux. Note even flow of solder and homogeneous appearance at right. Price is $2.25 per gallon. Made by **Farrelloy Co.**, 1246 N. 26th St., Philadelphia 21, Pa.

For more details circle NED-10,068 on enclosed inquiry slip

"We Cut Loading and Unloading Costs 75% with a BAKER FORK TRUCK"

"—also saved ourselves a costly construction job" —UNITED STOVE COMPANY, Ypsilanti, Mich.

• "Since our plant floor, shipping and receiving areas and shop yard are all on the same level, we faced the problem of either building a ramp and dock or finding some other means of getting loads into and out of highway trucks more quickly and economically. A Baker Fork Truck provided the answer. Besides eliminating the need for expensive rebuilding, with the resulting disruption in production, the truck helps us realize up to 75% in our loading and unloading operations, including scrap handling."

• • •

A Baker Representative will gladly help you solve similar problems in your plant.

BAKER INDUSTRIAL TRUCK DIVISION *of The Baker-Raulang Company*
1245 WEST 80th STREET • CLEVELAND 2, OHIO

Baker INDUSTRIAL TRUCKS

For more details circle NED-10,069 on enclosed inquiry slip

30-DAY DELIVERY!

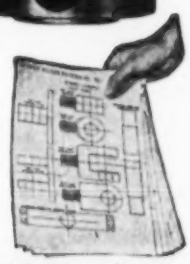
SIMPLEST... MOST COMPACT

O-M AIR HYDRAULIC WATER CYLINDERS

Speed production, cut costs and save space with Ortman-Miller cylinders. Full range of sizes (1-½" to 8" bores) now available for early delivery. All machined steel and bearing bronze. Interchangeable parts and mounting Brackets. Write today!

FREE TEMPLATES

Shows the full line in ½ scale. Request your free complete set now.



ORTMAN-MILLER MACHINE CO., INC.

1222-4 150th Street, Hammond, Indiana

For more details circle NED-10,070 on enclosed inquiry slip

gives any voltage from 0 to 2500, plugs into 115-volt a-c outlet

This compact tester has a capacity of 750 watts—ample for a-c insulation testing of motors up to 600 hp, transformers and other equipment of similar size. Highly accurate. Quick and easy to use. Weighs only 47 pounds. Includes 15-foot shielded test leads and 15-foot cord for plugging into 115-volt outlet. Available for 25, 50 or 60 cycles. Bulletin GEC-612 contains details. For a free copy, address *General Electric Company, Schenectady, N. Y.*

GENERAL ELECTRIC

401-92

For more details circle NED-10,071 on enclosed inquiry slip

BRONZE?

COPPER? *Aluminum?* brass? *stainless?* MONEL?

which alloy for your fastenings?

Harper knows because Harper specializes in them ALL . . . and whether your problem is corrosion, abrasion, heat, stress, appearance or a combination of these, Harper has met it before through many years of service to all industries. Over 7,000 items . . . bolts, screws, nuts, rivets and accessories . . . in stock ready for delivery from warehouses and distributors coast to coast.

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The H. M. Harper Co.
8212 Lehigh Ave., Morton Grove, Ill.
Rush my copy of new Price List and Stock Book.
Name.....
Address.....
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HARPER
EVERLASTING FASTENINGS

Specialists in ALL non-corrosive metals

For more details circle NED-10,072 on enclosed inquiry slip

SHENANGO Centrifugal CASTINGS ... KEY TO SAVINGS

Typical of innumerable special shapes cast centrifugally by Shenango, these splined "star" rolls of Meehanite Metal are used to convey coated cloth and synthetic material through a hot fast-drying process.

Why these rolls will do a **better** job, **longer!**

WHEN symmetrical shapes, such as these "star" rolls, are cast *centrifugally* by Shenango, they gain qualities that can't be matched in ordinary castings.

For example, metal for metal there's pressure-dense grain for finer, smoother finish; higher tensile to better resist stress and impact; freedom from sand inclusions, blow holes and other hidden defects to reduce rejects and avoid costly, unexpected failure.

So, when it comes to symmetrical shapes, large or small, ferrous or non-ferrous, you'll always be time and money ahead when you specify Shenango *centrifugal* castings . . . either rough or precision finished in the modern Shenango shops.

HELPFUL BULLETINS—Bulletin No. 150 covers Shenango non-ferrous centrifugally cast parts; Bulletin No. 151 for parts of Meehanite Metal, Ni-Resist and other special iron alloys. Either or both are yours for the asking.

SHENANGO-PENN MOLD COMPANY
891 West Third Street • Dover, Ohio
Executive Offices: Pittsburgh, Pa.

SHENANGO
ALL RED BRONZES • MANGANESE BRONZES • ALUMINUM BRONZES
MONEL METAL • NI-RESIST • MEEHANITE METAL

For more details circle **NED-10,076** on enclosed inquiry slip

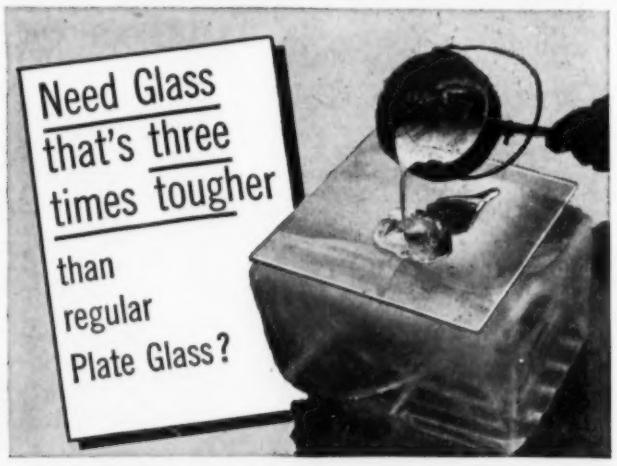
Hi-Speed rotary filing of metal pattern

When Patterns are Finished the Haskins Way

When you file and finish metal patterns with Haskins Flexible shaft equipment, you get the precision craftsmanship that assures quality production. Designed to speed pattern, die and mold finishing, Haskins HS-4 equipment—½ h.p.—has a six-speed, Timken-bearing countershaft that develops up to 7800 r.p.m. Available with bench, pedestal or overhead mounting. The Haskins complete line of machines and attachments gives you the right combination for all grinding, sanding, filing, or polishing operations. Write today for complete information. R. G. Haskins Co., 603 S. Washtenaw, Chicago 12, Ill.

haskins HASKINS
FLEXIBLE SHAFT EQUIPMENT

For more details circle **NED-10,077** on enclosed inquiry slip



Here's a glass that is three to five times stronger than plate glass in sustaining loads or resisting strain—five to seven times stronger in resisting impact—over three times as resistant to thermal shock. Imagine—no damage when molten lead is poured on it, even when it's resting on ice! This glass, strengthened by a Libbey·Owens·Ford scientific heat-treating process, is TUF-FLEX*, available in eight thicknesses, from ¼" to 1¼". Complete details in Bulletin SPD-51.

Write for your copy of this valuable booklet.

*® LOF GLASS
LIBBEY·OWENS·FORD GLASS COMPANY
87121 NICHOLAS BLDG.
TOLEDO 3, OHIO

For more details circle **NED-10,078** on enclosed inquiry slip

New Processes & Materials

SILICONE ELASTOMER fabricated into various parts

Possessing thermal characteristics that enable it to withstand temperatures from −100 to 500° F, silicone elastomer can be molded, extruded, laminated, calendered or sheeted. It can be made to adhere to most metals, glass, ceramics and to itself. Material resists oxidation and weathering, has high dielectric properties over wide temperature span and broad frequency range, besides staying soft and flexible after 90 days of aging at 300° F. Parts and accessories are made on contract basis by molding, extruding and die cutting by **H. O. Canfield Co.**, 129 Housatonic Ave., Bridgeport 1, Conn.

For more details circle **NED-10,079** on enclosed inquiry slip

PLASTIC BONDING AGENT adhesion results in few seconds

For cementing most of commonly used vinyl plastics, Vinyl Cement solvent-type bonding agent requires only one-surface application. Especially formulated for use with flexible vinyls, this water-white cement can also be used on rigid vinyl sheets and molded sections. Adhesion results in few seconds and full strength of bond develops in about 30 minutes. Cement is available in regular and heavy grades and is packaged in quart and gallon cans and in 55-gal steel drums. Made by **Schwartz Chemical Co.**, 326-8 W. 70th St., New York 23, N. Y.

For more details circle **NED-10,080** on enclosed inquiry slip

ANTIRUST PAINT for brush or spray application

Available in black, aluminum and clear, Rust-Cure antirust paint can be applied right over rusted metal surfaces without wire-brushing, scraping or sandblasting. Paint penetrates through existent rust layer and seals surface against further rust action. It is compounded for brush application and can be thinned for spray use. Black and aluminum colors are used solely as a finish coat while the clear can be painted over any color. Aluminum paint has high aluminum pigment content for brilliant finish. Product is available in 1 and 5-gal cans and in 55-gal drums. Made by **Monroe Co.**, Dept. M-1, 10703 Quebec Ave., Cleveland 6, O.

For more details circle **NED-10,081** on enclosed inquiry slip

WIRE GALVANIZING AID prevents zinc oxidation in pans

Savings of 20 to 50 per cent of zinc per ton of wire run are reported from field tests on liquid chemical blanket which seals off oxygen from surface of spelter pans of molten zinc through which wire is run for galvanizing. This protective liquid rests directly on molten zinc without mixing with it. Blanket permits wire to glide through zinc without leakage of air or splatter. Further advantage is that pigs can be added with minimum of splatter. Noxious zinc oxide fumes are virtually eliminated. Developed by **Dewey & Almy Chemical Co.**, Dept. 85AA, 62 Whittemore Ave., Cambridge 40, Mass.

For more details circle **NED-10,082** on enclosed inquiry slip

PAPER-GLASS FIBER YARN has uniform diameter and strength

Because it is man made, Textilene Glascor yarn can be engineered into wide range of tensile strengths with little or no change in bulk. Yarn, developed for rug backing, is made of paper wrapped around core of Fiberglas strands. It has good uniformity of diameter and strength and can be woven satisfactorily. Shrinkage is negligible factor. Smallest of six regular yarns is 0.025-in. overall diameter and runs 1600 yd to pound. Largest is 0.036-in. and has 880 yd per pound. Tensile strengths vary from 7 to 13 lb. Yarn can be produced to meet other specifications and can be colored. Made by **E. W. Twitchell, Inc.**, Third & Somerset, Philadelphia, Pa.

For more details circle **NED-10,083** on enclosed inquiry slip

Simple, Rugged, Low Cost Industrial Cooling

The FLOW COLD UNIT is shipped factory assembled and tested, ready for instant use.

FLOW COLD gives you the *simplest*, most *economical* installation you can make.

Used in hundreds of industrial applications where you save money through temperature control

For the answer to YOUR requirements, address Department FC.

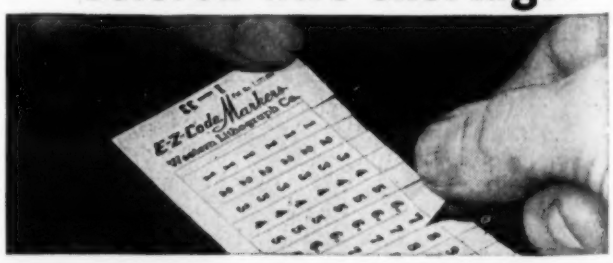
ACME PRODUCTS
ACME INDUSTRIES, INC.
Flow Cold Division
JACKSON, MICHIGAN
CONTINUOUSLY SERVING THE AIR CONDITIONING AND REFRIGERATION INDUSTRY SINCE 1919.

For more details circle **NED-10,084** on enclosed inquiry slip

For more details circle **NED-10,085** on enclosed inquiry slip

here's your ANSWER to the

colored wire shortage!



E-Z CODE WIRE MARKERS simplify the assembly of wiring circuits by number or standard NEMA color code—answer problems created by a colored wire shortage. They maintain accuracy...minimize rejections...simplify inspection...and get the most from new, inexperienced employees, even when assigned to the most complicated wiring projects. E-Z Codes, with the exclusive Speed-Tab, are faster to remove from carrying card, quicker to apply *(without moistening)* and adhere permanently to wire and cable, even when pulled through conduit. They are unaffected by heat and humidity. E-Z Codes are the efficient, low-cost answer to your colored wire shortage problem.

WRITE FOR SAMPLES TODAY!

Western Lithograph Co.
600 East Second Street
Los Angeles 54, Calif., Dept. NED-12
Box 3804
St. Louis 22, Mo.

For more details circle **NED-10,086** on enclosed inquiry slip

NEW! FOAMED LATEX COATED FABRICS

FOR THE FIRST TIME . . foamed latex and fabrics can be integrated to combine the functional cushioning action of foam with the tensile strength and versatility of cloth. A newly developed process embeds a wide variety of fabrics in thin gauges of foamed latex to form materials that can be fabricated into diversified end products ranging from industrial filters to shoe inserts and from instrument mountings to upholstery materials.

Durable as well as versatile, **ANDAL** combination materials can be die or deck cut, sewed, and cemented. Because the fabric-to-rubber embedding process does not seal the natural porosity of either component, the materials have "breathing" qualities. In addition, they can be washed or even boiled without damage to the foam.

ANDAL materials can be furnished in any desired color in widths from 45 to 60 inches on continuous rolls up to 75 yards. Foam gauges range from 1/16 to ¼ inch and can be supplied in varying densities to meet individ ual requirements.

220-AP

WRITE TODAY FOR SAMPLES

128-2 Ash St. Akron 8, Ohio

ANDREWS-ALDERFER PROCESSING CO., INC.

▲ For more details circle **NED-10,087** on enclosed inquiry slip ▲

IF YOU WALK ON IT IT CALLS FOR OPEN STEEL FLOORING

Ready for you—

THE *NEW* IDEA-BOOK "VERSATILE" OPEN STEEL FLOORING

Write for your free copy today!

This 16-page book tells you and *shows* you all about Open Steel Flooring—the strong, durable, ventilated, versatile surface that provides industrial plants with safety-sure walkways, platforms, stairs, floors, catwalks, etc. Get a copy and read the Specifications that assure top quality Open Steel Flooring . . . the flooring tailor-made to fit your individual needs—that provides safe walking-working conditions in your plant.

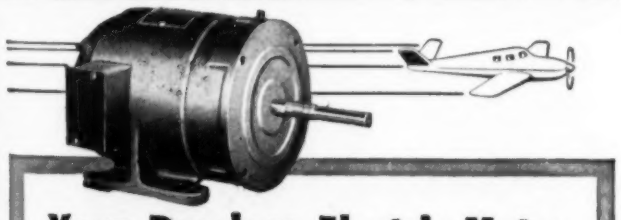
OPEN STEEL FLOORING INSTITUTE, INC.
2311-N First National Bank Building • Pittsburgh 22, Pa.

OPEN STEEL FLOORING INSTITUTE INC.

MEMBERS *These Manufacturers assure top quality engineered grating.*

IRVING SUBWAY GRATING CO., INC. Long Island City, N. Y.
THE TRI-LOK COMPANY Pittsburgh, Pa.
STANDARD STEEL SPRING CO. Gary, Indiana
BLAW-KNOX COMPANY Pittsburgh, Pa.
WALTER BATES COMPANY, INC. Joliet, Illinois
BORDEN METAL PRODUCTS CO. Elizabeth, N. J.
HENDRICK MANUFACTURING CO., Carbondale, Pa.

▲ For more details circle **NED-10,088** on enclosed inquiry slip ▲



Your Peerless Electric Motor Department can serve you promptly

• One of the finest motor engineering staffs can be your motor department when you call on Peerless Electric.

Peerless private air service—a Beechcraft Bonanza—can carry one of our sales engineers to see you on reasonably short notice, if necessary. He'll get to your problem quickly—right at your desk with your own designers—ready to work out the toughest motor problem.

Peerless Electric motor engineering, noted for dependability and versatility since 1893, is as progressive as the modern age, and now, more than ever, available as the motor department of your business.

THE PEERLESS ELECTRIC CO., WARREN, OHIO
Manufacturers of Quality Motors Since 1893
Single Phase • Polyphase • Direct Current • ¼ to 15 H.P.

Peerless Electric MOTORS · FANS · BLOWERS

▲ For more details circle **NED-10,089** on enclosed inquiry slip ▲

New Processes & Materials

INDUSTRIAL FLOOR TILE resists water, oil and grease

Nonslip when unwaxed, Tuff-Tex industrial flooring is resistant to commonly used greases, oils and moisture. It is a unit-laid floor that can be used immediately upon completion. Closely textured surface is easy to maintain. Possessing high flexural strength and impact resistance, flooring will withstand floor vibrations, trucking and dropping of heavy objects. Ten colors are available in thicknesses of 1/8, 3/16 or ¼-in. Application can be to cement or wood subfloors using Tile-Tex adhesive No. GF-8. Made by **Flintkote Co.**, Tile-Tex Div., 1211 McKinley Ave., Chicago Heights, Ill.

▲ For more details circle **NED-10,090** on enclosed inquiry slip ▲

PHENOLIC COMPOUND speeds cure time on molded parts

Fast-cure phenolic compound, designated as G-E 12853, speeds cure time on molded parts and is formulated for those applications presently using general purpose phenolic materials. Best results are obtained in compression, transfer and plunger type molds. Compound can be preheated to high temperatures, and in many cases, simplifies molding of intricate parts. Preheating and mold temperatures can be varied widely to regulate flow, allowing use of compound for variety of applications. Combining good physical and electrical properties, it imparts high finish to molded parts. Compound is produced in black by **General Electric Co.**, Chemical Div., 1 Plastics Ave., Pittsfield, Mass.

▲ For more details circle **NED-10,091** on enclosed inquiry slip ▲

SNOW-MELTING CHEMICAL available in powder or pellet form

One pound of Ice-Rem snow-melting chemical has thawing capacity equivalent to 30 lb of salt and exothermic action ten times faster than flake calcium chloride. Applied in its concentrated crystal pellet form by sprinkling lightly over first snow surface, chemical will melt subsequent light snow falls. The powder form is suitable for thawing frozen gutters, pipes, sewers and railway switches. Chemical leaves no residue, and Speconite rust inhibitor additive minimizes corrosive action. It is available in 10-lb metal containers (illustrated), 25-lb and 100-lb fiber drums and in ton lots. Made by **Speco, Inc.**, Dept. RSA, 7308 Associate Ave., Cleveland 9, O.

▲ For more details circle **NED-10,092** on enclosed inquiry slip ▲

Modern Design SPEEDS PRODUCTION

• Ames micrometer dial indicators are the most modern available today — and naturally so because Ames policy for over 50 years has been continually to improve design, to take advantage of new materials and to utilize the most advanced manufacturing methods. They are a real aid to the quality control engineer who is trying to keep pace with today's high production schedules.

Because Ames Indicators are functionally designed, they have fewer parts than ordinary indicators. Construction is simple with functional parts being larger and more rugged and adequately supported. Operational friction is at a minimum. Thus, Ames Indicators combine extreme sensitivity and accuracy with the ability and endurance *to stay right on the job longer.*

√ *Check this list of features . . .*
1 Forged Solid Brass Case and Stem
2 Heavy Brass Plate
3 Coarse Pitch Stainless Steel Rack
4 Hardened and Burnished Steel Pivots
5 Dials Printed from Steel Engravings
6 Patented Bezel Assembly

Representatives in principal cities. B. C. AMES CO. 34 Ames Street Waltham 54, Mass.
Mfgr. of Micrometer Dial Gauges • Micrometer Dial Indicators

▲ For more details circle **NED-10,093** on enclosed inquiry slip ▲

No. U216 Unishear. Cuts 16 gauge steel.

SAVE TIME, SAVE WORK
Cut sheet metal with Stanley Unishears

YOU CAN MAKE these two important savings at the same time when you cut sheet metal with Stanley Unishears. You save time — because Unishears cut faster and easier than ordinary hand snips. You save work — because Unishears leave a smooth, finished edge right along the cutting line.

Unishears are "self-feeding" — require little operator effort. Available in 12 sizes for sheet metal to 6 gauge. See them at your distributor's or write for literature. Stanley Electric Tools, 418 Myrtle St., New Britain, Connecticut.

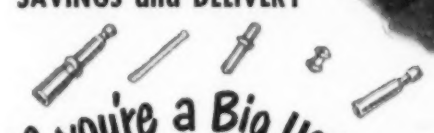
STANLEY
Reg. U.S. Pat. Off.

HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL

▲ For more details circle **NED-10,094** on enclosed inquiry slip ▲

We may KNOCK YOUR HAT OFF

with our Quote on SAVINGS and DELIVERY



If you're a Big User of Tiny Parts Such as These!

Sound like exaggeration? Not when you know the electronic tube industry looks to The Bead Chain Mfg. Co. for its millions of radio tube pins. Or, that builders of electrical apparatus turn to us for the contact pins, terminals, jacks and sleeves required in tremendous quantities.

PARTS FOR MANY MECHANICAL USES, TOO

SPRING ANCHOR FRICTION FASTENER PIVOT PIN

For pin-like parts, and variations of bushings needed for *mechanical* purposes, as well, we are the money-saving supplier to scores of makers of toys, business machines, appliances, ventilators, etc.

You Save . . . if we can make it! We can almost say with certainty that if we can make that part you use in large quantities, we can show you a big saving.

Nobody has What We Have! To produce Bead Chain to sell for pennies per yard, we had to develop *our own Multi-Swage Method.* Instead of turning and drilling parts, or stamping and forming them, our Multi-Swage Method automatically swages them from flat stock into precision tubular forms, with tight seams. By increasing the production rate many times and eliminating scrap, this saves a large part of the cost by other methods.

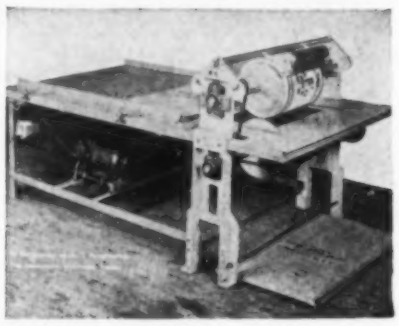
What We Can Make. Parts may be beaded, grooved, shouldered, of most any metal. Generally, should not exceed ¼" dia. or 1½" length. *Standard Items* available in small quantity. *Special Designs* must usually be ordered in lots of a half-million or more, unless frequently reordered.

Get Catalog and Cost Comparison. Send blueprint or sample and quantity requirements. Or write for Catalog-Data folder. The Bead Chain Mfg. Co., 16 Mountain Grove St., Bridgeport, Conn.

Let BEAD CHAIN make it by
MULTI-SWAGE METHOD

▲ For more details circle **NED-10,095** on enclosed inquiry slip ▲

PRINT YOUR OWN SHIPPING CONTAINERS OR MULTI-WALL BAGS AS YOU NEED THEM



Industrial's Auto Printer

is suitable for imprinting information, addresses, marking, or whatever you may require on your containers or multi-wall bags. It is capable of printing as many as 2400 units per hour. Eliminates hand stenciling.

This is just one of Industrial's coding and marking machines designed specifically for your needs to assure more efficient marking and movement of materials on production lines. Marking equipment is also available for conveyor line use.

Let us help you—send us your problem; we will do the rest.

Write for catalog today.

INDUSTRIAL MARKING EQUIPMENT CO.

Designers and Builders of Marking Equipment for Industry

Dept. NED, 454 Baltic Street

BROOKLYN 17, N. Y.

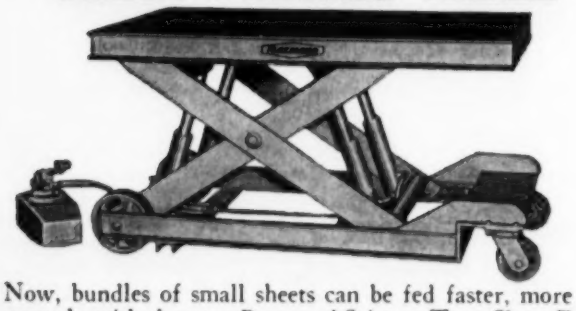
For more details circle NED-10,096 on enclosed inquiry slip

NEW WAY to FEED *Thick* BUNDLES of SHEETS

RAYMOND

Hydraulic Scissors-Type

SHEET FEEDING TABLE



Now, bundles of small sheets can be fed faster, more accurately with the new *Raymond* Scissors-Type Sheet Feeding Table.

Only 66" long, it has a scissors-type lifting mechanism that elevates the top from 18" to 36", enabling it to hold thick bundles for feeding. Top can't sag under off-center loads because it's supported at four points by Hydraulic rams.

With *Raymond* Scissors-Type Sheet Feeding Tables, manual lifting is banished — the operator merely slides sheets to presses, shears or brakes. Single speed foot pump or power operated pump raises table. Capacities: 6,000 or 10,000 lbs.

FREE BULLETIN. Send for Bulletin 261, Supp. 3—it gives complete details.

RAYMOND

Formerly LYON-Raymond Corporation

ELECTRIC INDUSTRIAL TRUCKS • HYDRAULIC ELEVATING EQUIPMENT

The RAYMOND CORPORATION

4155 SpaceMaker St., Greene, N. Y.

For more details circle NED-10,097 on enclosed inquiry slip

New Literature and Catalogs

Expansion Joints & Bellows

Solar Aircraft Co.—Over 78,000 possible combinations of bellows type expansion joints are included in 40-page illustrated catalog No. 51. Serving as reference handbook, it covers line of standard and special bellows assemblies used to take up expansion, contraction and offset movements in pipes and conduits. Sizes from ½ to 72 in. cover range from vacuum to 1000 psi in various fields.

For more details circle NED-10,098 on enclosed inquiry slip

Air & Electric Powered Stirrups

Albina Engine & Machine Works—Three independent automatic braking systems are among safety features incorporated in electric and air powered mechanical stirrups, described in illustrated folder. Use is for glazing, steam cleaning, sheet metal work, painting or window washing on buildings, stacks, tanks, standpipes and bridges.

For more details circle NED-10,099 on enclosed inquiry slip

Oil, Gas, Coal Firing Equipment

Iron Fireman Mfg. Co.—16-page illustrated form 2129 details Iron Fireman automatic industrial, commercial and domestic firing equipment for oil, gas and coal. Features, specifications and control equipment are included.

For more details circle NED-10,100 on enclosed inquiry slip

Industrial Polishing

Schaffner Mfg. Co.—Techniques of industrial polishing and buffing as related to various company made buffs, polishes and plating supplies are described in 12-page booklet No. 51. Tips on getting best results in metal, plastics and wood polishing, plus compounds suitable for each process are offered. Booklet serves simultaneously as products catalog.

For more details circle NED-10,101 on enclosed inquiry slip

Containers, Packaging Materials

Chase Bag Co.—Complete line of textile, paper and film containers and packaging materials is illustrated in 16-page booklet titled "Worth Looking Into." Laboratory, research, engineering and manufacturing facilities, as well as company's purchasing policies are discussed.

For more details circle NED-10,102 on enclosed inquiry slip

Metal Cleaning Equipment

Phillips Mfg. Co.—"Phillips Vapor Degreasers" is 10-page illustrated brochure showing how these degreasers operate, what industries use them, and to what applications they can be put. Full line of this equipment which removes oil, grease and wax from ferrous and nonferrous metals is pictured with features, capacities and uses for each type unit.

For more details circle NED-10,103 on enclosed inquiry slip

Iron & Alloyed Castings

Hamilton Foundry & Machine Co.—Profusely illustrated, 48-page pamphlet "Hamilton Quality Castings" shows wide range of light and medium castings produced in gray, alloyed and Meehanite irons as well as Ni-Resist. A section in full color illustrates number of examples of cast iron art.

For more details circle NED-10,104 on enclosed inquiry slip

Rubber-Coated Metal Parts

Midwest Rubber Co.—Many uses which manufacturers have found for rubber-dipped parts are featured in illustrated brochure. Photos, prints and uses of 12 diverse parts are detailed on center spread. Also covered are 35 representative rubber-coated metal stampings and wire forms made by company.

For more details circle NED-10,105 on enclosed inquiry slip

Steel Grating

Open Steel Flooring Institute, Inc.—"Versatile—Open Steel Flooring" is 16-page idea booklet showing many and varied uses of steel grating. It explains types and features of open steel flooring and gives specifications for insuring its proper installation.

For more details circle NED-10,106 on enclosed inquiry slip

Cutting Tool Price Schedule

Super Tool Co.—Prices of 25 types of standard solid carbide and carbide tipped tools manufactured by company are included in 24-page net price schedule for catalog No. 50 and supplements. Schedule was effective Sept. 1, 1951.

For more details circle NED-10,107 on enclosed inquiry slip

Low Temperature Welding Alloys Chart

Eutectic Welding Alloys Corp.—Detailed specification on almost 200 low temperature metal joining alloys are included in 10 x 14-in. wall chart. Alloys for use with various metals and for several types of joining are included.

For more details circle NED-10,108 on enclosed inquiry slip

new, removable Kum-Kleen inspection stickers

Hundreds of industrial plants have found these Kum-Kleen *Removable* Inspection Stickers are far faster, safer and more efficient than string tags, chalk marks, grease pencil, or gummed labels. These pressure-sensitive Kum-Kleen stickers are quickly applied *without moistening,* and they stick-and-stay-stuck to all clean, smooth surfaces, never curl or pop off, yet easily peel off when their job is done. In stock for immediate delivery or available printed to your specifications.

Write for samples ADDRESS DEPT. NED12

AVERY ADHESIVE LABEL CORPORATION — Kum-Kleen

NEW YORK CITY: 117 Liberty Street
DETROIT: 3049 East Grand Boulevard
CLEVELAND: 2123 East 9th Street
PHILADELPHIA: Commercial Trust Building
CHICAGO: 608 South Dearborn Street
CINCINNATI: 626 Broadway Street
MONROVIA, California
Representatives In All Principal Cities

For more details circle NED-10,109 on enclosed inquiry slip

ANNOUNCING *Atlas* CLAUSING

12" LATHES – 6300 SERIES

★ 1" Collet Capacity, 1⅜" Bore
★ A.S.A.-L-00 Tapered Key Drive Spindle ★ Timken Bearings

CLAUSING — a name highly respected for years in thousands of plants — is now a division of Atlas. Atlas-Clausing will continue with the advanced features that have made the Clausing lathe's excellent reputation. Send for catalog and complete details.

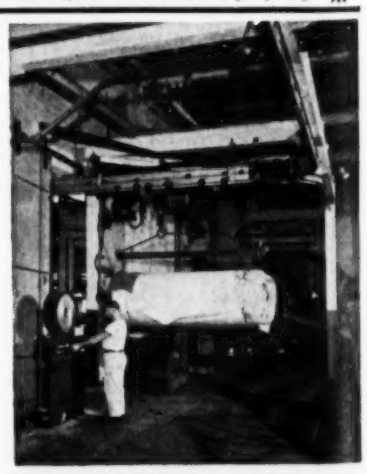
ATLAS PRESS COMPANY

1223 N. Pitcher St.

KALAMAZOO, MICHIGAN

For more details circle NED-10,110 on enclosed inquiry slip

IT TOOK "BACKACHE" AND "HEADACHE" OUT OF HANDLING



This American MonoRail Overhead Handling System entirely eliminated all problems previously encountered. The system, consisting of 1650 feet of track, 8 carriers with electric hoists and MonoTractor drive, a power-operated crane, three track scales and the normal complement of track switches, produced the following improvements:

1. Operator fatigue was greatly reduced.
2. Traffic flowed freely—no aisle congestion.
3. No side-tracking during travel — time saved.
4. Loads automatically weighed — no transfer to scales.
5. Damage to floors completely eliminated.
6. Damage to load greatly reduced.

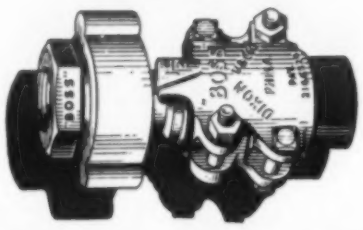
Let an American MonoRail engineer show you how it can be done in your plant, at no obligation, of course. Send for C-1 Bulletin.

THE AMERICAN MONORAIL COMPANY

13116 Athens Avenue • Cleveland 7, Ohio

For more details circle NED-10,111 on enclosed inquiry slip

"BOSS"



WASHER TYPE FEMALE COUPLING

STYLE W-16

For leakproof, durable connections on hose for every service—steam, air, gas, water, oil, butane, hydraulics—high or low pressure. Furnished with super-strong "Boss" Offset and Interlocking Clamps. All parts (except washer) steel or malleable iron, rustproofed. Deep corrugations on stem smoothly rounded to prevent damage to hose tube. Sizes ¼" to 6", inclusive.

From Your Hose Supplier or Industrial Distributor

DIXON VALVE & COUPLING CO.

PRODUCERS OF *The Quality Line* COUPLINGS • NIPPLES • MENDERS • CLAMPS

"BOSS" "GJ-BOSS" "DIXON" "KING" "AIR KING" "DIX-LOCK"

PHILADELPHIA, PA. BRANCHES: CHICAGO • BIRMINGHAM • LOS ANGELES • HOUSTON

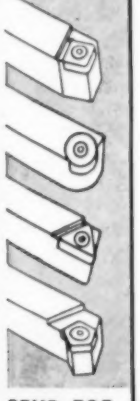
For more details circle **NED-10,112** on enclosed inquiry slip

The Only Carbide Tool

INDEXABLE KENNAMETAL TIP HAS 4 CUTTING EDGES

THAT NEEDS NO SHARPENING

4 STOCK STYLES



Here is the answer to the long-standing need for carbide tools in plants where there is no grinding equipment, where facilities are overloaded, or where grinding costs are known to be excessive.

The long-lasting Kennametal tip, mechanically held to provide a thermal-strain-free assembly, can be indexed as required to utilize all cutting edges. It then may be discarded, if desired.

Available in four sizes—½", ⅝", ¾", and 1"—in styles shown at left. Suitable for high-rate machining of steel, cast-iron, and nonferrous materials.

KENNAMETAL Inc.
Latrobe, Pa.

MANUFACTURERS OF SUPERIOR CEMENTED CARBIDES AND CUTTING TOOLS THAT INCREASE PRODUCTIVITY

SEND FOR CATALOG 51

For more details circle **NED-10,113** on enclosed inquiry slip

Take advantage of exclusive P&H AC Dial-lectric principle

give your production a lift

—with safe, open-circuit voltage . . . easy, quick start arc . . . time-saving, built-in remote control . . . compact AC design

Your men like the P&H AC Dial-lectric — like its safety under the most adverse conditions; like the easy, quick-start arc, the elimination of arc-blow. And they get more done! Get sounder, better looking welds in less time, thanks to built-in remote control which lets them select the right heat at the work, turns *walking time* into *welding time*. Write for details.

P&H WELDING DIVISION
4537 W. National Ave.
Milwaukee 14, Wis.

HARNISCHFEGER CORPORATION

2350-A

For more details circle **NED-10,114** on enclosed inquiry slip

New Literature—Continued

Carbide Tipped Tools & Parts

Adamas Carbide Corp.—Sections on carbide standard blank styles, reamer blanks, solid ground cylinders, rectangular strips, bushings, solid inserts and modified and semistandard blanks are found in 20-page catalog No. A-851 which illustrates line of tungsten carbide tool tips, dies and wear parts. Featured are page on brazing, guide listing of grades and Rockwell A hardnesses and page on proper way to order these tools.

For more details circle **NED-10,115** on enclosed inquiry slip

Water Heating Equipment

General Fittings Co.—10-page catalog No. 60 is published for engineers and consultants who help select equipment for washroom, cafeteria, dispensary and processing hot water. It features instantaneous water heaters, illustrates typical installations and gives sizing data, steam consumption tables and diagrams.

For more details circle **NED-10,116** on enclosed inquiry slip

Variable Speed Motor Pulley

Illustrated 28-page catalog No. 651 contains descriptive and engineering data on Roto-Cone variable speed pulleys, companion sheaves, adjustable standard and countershaft motor bases, tilting motor bases and V-belts. Requests should be made on company letterhead to Gerbing Mfg. Corp., 11801 Milwaukee Ave., Northbrook, Ill.

For more details circle **NED-10,117** on enclosed inquiry slip

Motor Controls & Accessories

Clark Controller Co.—Alternating and direct current motor starters, motor control centers, contactors, relays and other accessories are described in 88-page Controlog, a digest of motor controls. Included are open and closed views of more popular items, applications, enclosures, outline dimensions and prices.

For more details circle **NED-10,118** on enclosed inquiry slip

Chucks & Their Uses

Skinner Chuck Co.—Details of construction, use and mounting are given for each of many types of chucks covered in 68-page illustrated booklet "Chucks and Their Uses." Drawings show all types of standard and many special chucks. Chuck care, lubrication and cleaning, safety measures, spindle noses, magnetic chucks and vises are covered in detail.

For more details circle **NED-10,119** on enclosed inquiry slip

Selenium Rectifiers & Controls

Rapid Electric Co.—12-page illustrated bulletin RP-51 presents information on various types of selenium rectifiers and auxiliary controls for metal finishing industry. Included are bench, self-contained and basic rectifiers; remote and automatic controls; and periodic reversing equipment.

For more details circle **NED-10,120** on enclosed inquiry slip

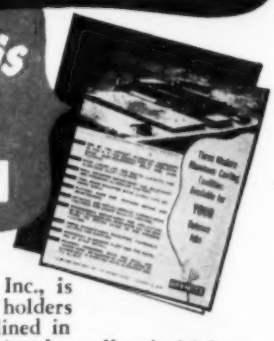
Grinding Wheel Data

Cleveland Quarries Co., Sterling Grinding Wheel Div.—"Art and Science of Grinding" is title of revised 42-page illustrated guide book which describes Sterling grinding wheels and offers helpful data tables. Operating information, manufacturing details and application data on particular types of wheels are included.

For more details circle **NED-10,121** on enclosed inquiry slip

If you need ALUMINUM CASTINGS for your DEFENSE PRODUCTION...

Send for this NEW BULLETIN



HOW Aluminum Industries, Inc., is supporting defense contract holders on their castings needs is outlined in this new Bulletin. The chemical and metallurgical laboratories, equipped for strict quality control . . . the pattern shop . . . the foundry with its 2,500,000 pounds monthly capacity . . . the tool room, with its skilled tool and die makers . . . the engineering department staffed to help you realize maximum benefits from the use of aluminum castings . . . these and other facilities are described in this new bulletin. Send for Bulletin 20-A today.

PERMITE

ALUMINUM INDUSTRIES, Inc.
CINCINNATI 25, OHIO

ALUMINUM PERMANENT MOLD, SAND and DIE CASTINGS . . . HARDENED, GROUND and FORGED STEEL PARTS

For more details circle **NED-10,122** on enclosed inquiry slip

ANOTHER FLEXIBLE SHAFT APPLICATION

AT STOW

WE PRACTICE WHAT WE PREACH

and save $$$ in production!

Concrete vibrator heads are subject to terrific tension load. Because of this, special precision grinding operations are necessary in their manufacture to insure that outside and inside diameter of casings are exactly concentric. By using a Stow Flexible Grinder in conjunction with another grinder, as shown in the illustration, Stow Manufacturing Co. saved 50% of the production time formerly required for this important operation.

Stow can save money for you, too. Write today for catalog and specific information.

Bulletin #515

STOW MANUFACTURING CO.
26 Shear St., Binghamton, N. Y.

For more details circle **NED-10,123** on enclosed inquiry slip

Save Time, Labor, Dollars!

TEST • STUDY • CONTROL

VISCOSITY

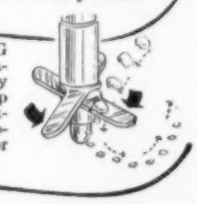
As Simply, Quickly and Easily as Taking Temperature Readings

Just a flick of a switch, then read the Brookfield dial, and you have your viscosity determination in centipoises. The whole operation, including cleaning up, usually takes *less than a minute.*

Available in a variety of models suitable for extremely accurate work with both Newtonian and non-Newtonian materials, Brookfield Viscometers are portable and plug in any A.C. outlet — *can be used in Lab, Plant or both.*

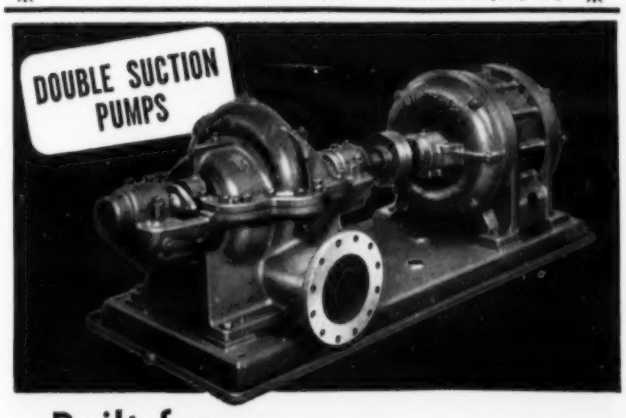
Write today for fully illustrated catalog showing Brookfield Viscometers adaptable to any viscosity problem *from less than one to 32,000,000 centipoises.*

BROOKFIELD COUNTER-ROTATING MIXER — Two concentric, oppositely rotating shafts, propeller equipped and driven by two motors, produce an annular flow and up to 48,000 scissor-like cuts/minute. Enable exceptionally fast, effective and efficient laboratory mixing. *Not* a "stirrer." Write for Brookfield MIXER brochure.



Brookfield ENGINEERING LABORATORIES, INC.
230 Porter St., Stoughton, Mass.

For more details circle **NED-10,124** on enclosed inquiry slip



Built for LOW MAINTENANCE

GENEROUS CONSTRUCTION with extra metal thicknesses, extra strong parts, extra construction features and extra careful workmanship means lower pumping costs for you. Every pump tested on most modern equipment in industry. Each installation individually engineered.

Horizontally split casing, ball bearings, balanced impeller, wearing rings, hand finished water passages, cast shaft sleeves, generous stuffing box length. Choice of iron, bronze, stainless steel.

Standard sizes from 10 to 7000 gpm with 475 foot head. Larger sizes available. For complete information, call your Allis-Chalmers Office, or write Allis-Chalmers, Milwaukee 1, Wisconsin for bulletin 08B6146.

A-3320

ALLIS-CHALMERS

For more details circle **NED-10,125** on enclosed inquiry slip

A Chair Designed to Make History

NEW TABLET ARM CHAIR that FOLDS

Clarin

Will make its mark as one of the most useful adjuncts to portable seating ever devised.
This FOLDING TABLET ARM CHAIR is just the thing for—
SALES CONFERENCES
DEPARTMENTAL MEETINGS
GROUP DISCUSSIONS
LECTURES
TAKING MINUTES, NOTES, DICTATION, etc.
The arm is an integral part of the chair—NOT AN ATTACHMENT. It may be adjusted to several positions—
1) Raised upright to permit free ingress and egress.
2) Completely lowered to the side.
3) Folded flat against the seat for compact storage.

Doubly Reinforced Steel Frame with Plywood Seat and Solid Wood Arm. Available with Seat only, or Seat and Back upholstered. Rubber Feet prevent noise and marring.

Folds to 3" thin.

The Only Folding Chair of its kind anywhere.

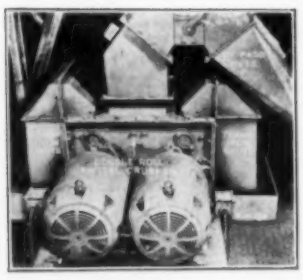
Write today for folder, prices and delivery data.

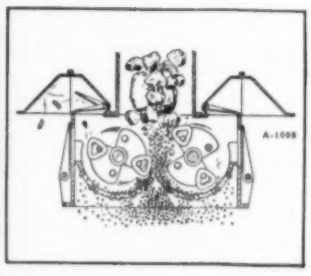
CLARIN MFG. COMPANY
4640 W. Harrison St., Dept. 15, CHICAGO 44, ILL.

For more details circle NED-10,126 on enclosed inquiry slip

Double-Rotor KNITTEL Crusher

Crushes Wet Coal without Clogging





S-A KNITTEL ring-type crusher with two rotors eliminates breaker plates . . . crushes wet coal without clogging . . . maintains rated capacity. Write for crusher bulletin 350.

STEPHEN S-ADAMSON MFG. CO.
Tellevel—Bin Level Controls · Car Loaders · SealMaster Ball Bearings · Car Pullers · Winches · ChangeMaster Variable Speed Reducers · Saco Speed Reducers
12 RIDGEWAY AVE., AURORA, ILL.

For more details circle NED-10,127 on enclosed inquiry slip

25 MODELS OF RIVETT OIL PILOT VALVES

FOR REMOTE CONTROL OF OIL PRESSURE OPERATED 4-WAY HYDRAULIC VALVES

25 Models offered to handle individual applications. Available with Fork Lever, or Fork and Hand Lever (illustrated) in 4 mountings: Pipe Line, Base, Foot and Panel. May be had with all ports blocked in neutral; all ports open to exhaust in neutral; cylinder ports open to exhaust and pressure port blocked in neutral. (*Solenoid Operated Spring Return Also Available.*)

Write for Catalog Section 202

Rivett Lathe & Grinder Inc., Dept. NED12, Brighton 35, Boston, Mass.

WHEN YOU APPLY HYDRAULIC OR AIR POWER, PLAN WITH RIVETT

For more details circle NED-10,128 on enclosed inquiry slip

New Literature—Continued

Vacuum Impregnation

F. J. Stokes Machine Co.—Process of vacuum impregnation is explained, list of applications is given, and equipment used is described and pictured in 32-page brochure No. 710. Impregnating agent is introduced into chamber where high vacuum has been created, allowing deep penetration. Use is for insulation of electrical equipment, filling of thermometers and small bottles, weatherproofing, bleaching and dyeing.

For more details circle NED-10,129 on enclosed inquiry slip

Flexible Push-Pull Controls

American Chain & Cable Co., Automotive & Aircraft Div.—Descriptions of Tru-Lay flexible push-pull controls for transferring movements from one location or mechanism to another are included in 12-page illustrated booklet "The Key to Remote Control." Five sizes handle loads up to 1000 lb. Dimensions and engineering data are included on controls which can be bent or snaked around obstructions.

For more details circle NED-10,130 on enclosed inquiry slip

Power Screwdriving Equipment

Parker-Kalon Corp.—Described and illustrated in 4-page bulletin No. 401 are power drivers for production line use of Parker-Kalon self-tapping screws. Included are portable and suspended electric and air tools, as well as single and double spindle automatic hopper-fed screw inserting machines for driving one or more screws simultaneously.

For more details circle NED-10,131 on enclosed inquiry slip

Basic Materials Handling Facts

Clark Equipment Co., Industrial Truck Div.—How modern materials handling machines can expedite manufacture, cut costs, save time and money, and make possible efficient movement and proper storage is subject of 24-page illustrated booklet "Basic Facts About Materials Handling." Pocket-size booklet contains cost analysis information on how to figure amortization of machine investment.

For more details circle NED-10,132 on enclosed inquiry slip

Positioning Control Operator

Conoflow Corp.—8-page illustrated bulletin C-1 describes Cono Rotomotor pneumatic gear-driven operator for throttling control service. It is applicable to catalyst slide valves, large gate valves, heavy dampers and blast gate valves. Dimensional and operating information is included.

For more details circle NED-10,133 on enclosed inquiry slip

Coil Winding Machines

Geo. Stevens Mfg. Co.—Machines which wind practically every kind of coil for laboratory or production line are described in 32-page illustrated catalog. Armature, bobbin, choke, heavy duty field, paper section, random, resistor and solenoid coils are among types wound by machines of various sizes and types.

For more details circle NED-10,134 on enclosed inquiry slip

Vapor Line Purifier

V. D. Anderson Co.—2-page illustrated condensed data sheet No. 300 describes features and operation of receiver type Hi-eF purifier for removing destructive entrainment from vapor lines. Applications include turbines, steam engines, exhaust steam installations and removing condensate from compressed air systems. Units are made in sizes from 4 to 16 in.

For more details circle NED-10,135 on enclosed inquiry slip

Pressure Switches

Barksdale Valves—32-page illustrated catalog 1MB-1 is manual on pressure and vacuum actuated switches for industrial applications. Included are glossary of terms, tabulation of available units, diagrams for circuit detailing, electrical rating table and other application data. Operating characteristics of diaphragm, bourdon tube and piston actuated switches are outlined.

For more details circle NED-10,136 on enclosed inquiry slip

Cutting Materials Handling Costs

Yale & Towne Mfg. Co.—"The How Book of Cost Cutting Materials Handling" is concerned with basic background material covering types of skids, pallets and other industrial handling tools. A comprehensive plan is outlined for evaluating present handling methods through an engineering analysis similar to a time and motion study. In addition to the 24-page text, analysis charts and summary sheets are provided.

For more details circle NED-10,137 on enclosed inquiry slip

Blast Cleaner

Vacu-Blast Co.—Details of operation and equipment and numerous applications are included in 20-page illustrated catalog 2189 on Vacu-Blaster movable blast cleaning equipment for metal, concrete, brick, stone or wood surfaces. Device has vacuum pickup which removes abrasives and debris simultaneously with blasting operation, precluding use of mask for operator.

For more details circle NED-10,138 on enclosed inquiry slip

A REVOLUTIONARY DEVELOPMENT
VIBRA-FREE*
CARBIDE TIPPED
MEYCO SAWS

You will be interested in this radically new development IF your carbide tipped saws sound like a police siren; IF they develop a "snaky" cut after short usage; IF they dull fast because carbide tips become chipped.

MEYCO VIBRA-FREE* saws embody a new principle in saw design, a new control over vibration by the use of sound absorbing dampers, which eliminate excessive vibration, excessive noise . . . produce smoother cuts, longer life for carbide tips. You get MORE cuts between sharpenings and operators LIKE to use Vibra-Free* blades. Investigate this revolutionary development TODAY. Write for full information and price list.

*T. M. Reg. U. S. Pat. Off.

W. F. MEYERS CO., INC., BEDFORD, INDIANA

For more details circle NED-10,139 on enclosed inquiry slip

RHOADS Tannate UNI-PULL DRIVE

FOR TROUBLE-FREE POWER TRANSMISSION

Every second, every minute, every hour—year in and year out—Rhoads Tannate UNI-PULL Drive assures smooth, consistent transmission of power. The pivoted motor base automatically maintains the proper belt tension regardless of fluctuating load conditions . . . and Rhoads Tannate Leather Belting, with its superior gripping surface that results from our exclusive tanning process assures long, trouble-free performance.

Write for Rhoads Tannate UNI-PULL Drive Manual.

PRODUCERS OF FINE LEATHER FOR 249 YEARS
J. E. RHOADS & SONS
35 North Sixth Street, Philadelphia 6, Pa.

For more details circle NED-10,140 on enclosed inquiry slip

WITH TMI QUALITY TUBING

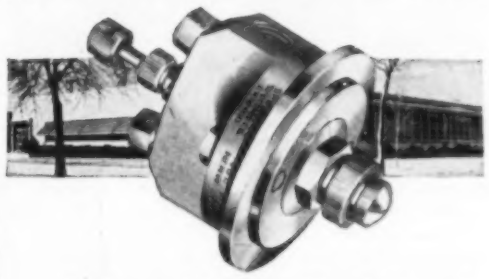
It takes more than a "good bow, a straight arrow and an accurate eye" to hit the QUALITY mark. Tube Methods' marksmanship assures you the BEST in cold-drawn stainless steel tubing . . . bringing a new triple-capacity plant and a decade of specialized experience to the service of you and *your* quality product.

STAINLESS STEEL AND SPECIAL ALLOYS IN SMALL DIAMETERS—.050 to .625 O. D.

TUBE METHODS INC.
METALLURGISTS • ENGINEERS • MANUFACTURERS
BRIDGEPORT (Montgomery County), PA.

For more details circle NED-10,141 on enclosed inquiry slip

to the 99 plants in 100 who use SPRAY NOZZLES



WRITE FOR

In the search for doing things better and faster, have you overlooked the importance of spray nozzles? Your application may be commonplace or complex . . . but whatever it is, properly engineered spray nozzles can make a vast difference. Let Spraying Systems Co., America's foremost authority on industrial spray nozzles show you why and how. As a first step, write for catalogs.

SPRAYING SYSTEMS CO.
Engineers and Manufacturers
3211 Randolph Street
Bellwood, Illinois

Catalog No. 22
General Industrial Spray Nozzles
Catalog No. 23
Pneumatic Atomizing Nozzles

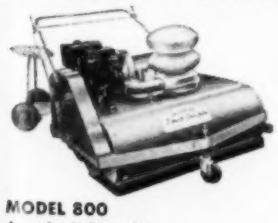
For more details circle NED-10,142 on enclosed inquiry slip

Wilshire REALLY PAYS OFF!

MODEL 1000-M
Super Heavy Duty with forward and reverse drive, 100% visibility.

CUTS Your SWEEPING COSTS 75%

Are costs getting the best of you? Is manpower a problem? Forget it—get a WILSHIRE Power Sweeper—the one-man gang that picks up everything from cigarette butts to pop bottles in one easy operation—does it so efficiently that users from coast to coast report reductions in cleanup costs of 75% and more. Make us prove it—with a FREE demonstration on your job. Write today for full information.



MODEL 800
America's favorite Heavy Duty Sweeper with finger-tip dual control. (Sulky optional.)

FACTORY TESTED...90-DAY GUARANTEE

For dealer nearest you write Dept. G-10

Wilshire POWER SWEEPER CO.
526 W. Chevy Chase Drive
Glendale 4, Calif.

SWEEPING THE COUNTRY SINCE 1940

For more details circle NED-10,143 on enclosed inquiry slip

New Literature—Continued

Power Press Unloader

Sahlin Engineering Co.—Complete installation, operation instructions and advantages of automatic unloading of power presses with the Iron Hand are offered in 8-page brochure. Illustrations show adjustments to different widths, heights, jaw travel and distance and angle of swing. Three sizes to suit large, medium and small presses are available.

For more details circle NED-10,144 on enclosed inquiry slip

Nickel Fusion Welding

International Nickel Co.—44-page technical bulletin T-2, containing over 30 tables and 50 illustrations, is complete treatise on electric arc and gas fusion welding of nickel and high nickel alloys. Such information as ASME boiler code, pickling, testing and inspection safety methods are covered.

For more details circle NED-10,145 on enclosed inquiry slip

Insulation Products

Ehret Magnesia Mfg. Co.—Characteristics and advantages of Thermalite 85-per cent magnesia insulation for covering pipe fittings and equipment are described in 8-page bulletin 4h. Other insulations covered include: Enduro for high temperatures, insulating and finishing cements, asbestos sponge felt, Air Cell, wool felt, Anti-Sweat, Frostproof, Heat-Seal blankets, hair felt, Fibrekote, asbestos paper, millboard, wick and rope.

For more details circle NED-10,146 on enclosed inquiry slip

Conveyor Heat Treat Lines

Cambridge Wire Cloth Co.—"6 Ways to Increase Heat Treating Production" is title of folder containing flow sheet for heat treating of auto spring assemblies and presenting applications of woven wire conveyor belts. Recommended installations are adaptable to handling any type product.

For more details circle NED-10,147 on enclosed inquiry slip

Analog Computer

Technology Instrument Corp.—Laboratory report No. 3 features an article on the analog computer and Part I of "A Production Test Method for the Determination of the Linearity of Precision Potentiometer," by J. R. Altiere.

For more details circle NED-10,148 on enclosed inquiry slip

Tool Grinding & Maintenance

Carborundum Co.—"Maintenance of Alloy and High Speed Cutting Tools" is title of 70-page booklet No. 10 which covers lathe and planer tool grinding, cutters and reamers, grading recommendations, coated abrasives, tool room sticks and MX products. Photos and diagrams show various grinding set-ups, tool angles, wheels and machinery.

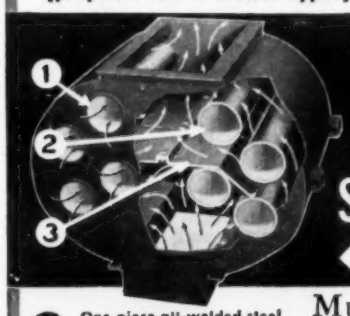
For more details circle NED-10,149 on enclosed inquiry slip

Electric Welding Accessories

Tweco Products Co.—Line of electrode holders, ground clamps, cable connectors, terminal connectors, cable splicers, mechanical and solder type cable lugs, carbon electrode holders and the Lug-Set block and punch for attaching solder type lugs to cables without solder are covered in descriptive 12-page Twecolog No. 8.

For more details circle NED-10,150 on enclosed inquiry slip

Mueller Climatrol
space-saving gas-fired unit heaters
(propeller fan or blower types)



Proof of SUPERIORITY is here

1. One-piece all-welded steel heat exchanger — no tie-rod, bolted, gasketed, or slip joints to leak, separate or crack.
2. Uniform air flow and heat distribution — burner extends under entire heat exchanger; insures maximum fuel economy.
3. High Crown Sheet — no flame impingement, no hot spots.

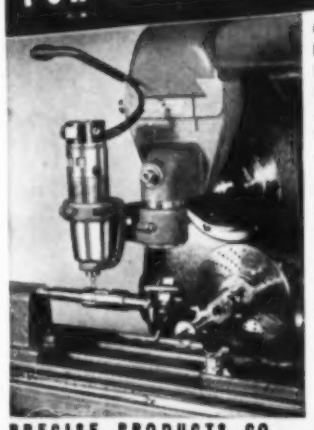
MUELLER gives you a unit to fit every application — 4 sizes: 60,000, 90,000, 120,000 and 150,000 Btu input capacities. A.G.A. and Underwriters' Laboratories approved — with design features that assure longer life, greater economy. These units are *shipped assembled and pre-wired* for quick, low-cost installation. E-44

Write for full details —

L. J. Mueller Furnace Co.
2041-O W. Oklahoma Ave.
MILWAUKEE 15, WISCONSIN

For more details circle NED-10,151 on enclosed inquiry slip

LOWEST COST PRECISION FOR TOOL ROOM AND PRODUCTION



ONE PORTABLE MULTI-PURPOSE PRECISE GRINDER-MILLER WITH MACHINE TOOL MOUNT DOES THE WORK OF A SINGLE-PURPOSE MACHINE COSTING 100 TIMES AS MUCH!

Little can be done today to reduce labor and material costs. For substantial savings employ new, better techniques. Mount PRECISE Grinder-Millers on lathes, drill presses, milling machines and other machine tools or use in special production set-ups. ¼ HP; speeds from 20,000 to 45,000 r.p.m.; 115 volts, AC-DC. Ruggedly built for continuous duty. All metal housing; rigid PRECISE quill; sealed micro-precision bearings. *High speeds and accurate PRECISE quill and chuck are ideal for tungsten carbide cutters.* PRECISE will grind, mill or finish any material from soft wood to the hardest alloy steel.

Write FOR CATALOG

PRECISE PRODUCTS CO., 1346 Clark St., Racine, Wis.

PRECISE GRINDER-MILLERS

For more details circle NED-10,152 on enclosed inquiry slip

Direct-Current AMPLIFIER

For accurately measuring very small direct-current voltages and currents this amplifier is finding considerable application in industry. It has high stability of calibration, high gain and simplicity of operation. It is a-c operated and gives full-scale output over an input range of 0.1 to 1.0 volt. A considerable number of input resistances between 100 ohms and 10 megohms can be selected by a switch.

The Type 715-A D-C Amplifier was designed to be operated with an Esterline-Angus 5-milliampere recorder for use as a d-c recording milliammeter or voltmeter. Type 715-AM (illustrated) is supplied in a walnut cabinet at $320.00. Write for complete information.

GENERAL RADIO Company 275 Massachusetts Ave. Cambridge 39, Mass.
90 West St. NEW YORK 6 920 South Michigan Ave. CHICAGO 5
1000 North Seward St. LOS ANGELES 38

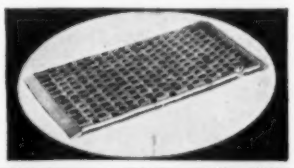
For more details circle NED-10,153 on enclosed inquiry slip

• PREVENT SLIPPING & ACCIDENTS
• RETARD FATIGUE
• REDUCE BREAKAGE

with

TUF-TRED SAFETY MATTING

A low-priced, superior grade of rubber fabric matting and the only one equipped with non-trip beveled safety nosing on the ends. Links are strongly laced on galvanized rust-resisting steel wire, reinforced by metal plates. Thickness: ⅝". Width: up to 6 feet. Any length.



AMERICAN MAT CORPORATION
"America's Largest Matting Specialists"
1733 Adams Street Toledo 2, Ohio
Please send literature and prices on Tuf-Tred Safety Matting.
Name
Firm
Street
City & State

IN CANADA: American Mat Corporation Ltd., Canada Trust Building, Windsor, Ontario

For more details circle NED-10,154 on enclosed inquiry slip

Drill More Holes Per Hour
In ANY Pattern . . . On ANY Drill Press

with a *Adjustable* **MULTI-DRILL**

DRILLS 2 to 8 HOLES at ONE STROKE

Increase production up to 800% . . . save time, cut costs. MULTI-DRILLS make *any* drill press produce *more*. Attached without alterations or special tools. Quick, easy setups of universally adjustable spindles give you more flexibility . . . wider application. Handles any hole pattern within 9" circle; centers close as ½". Extension Spindles available to increase working area to 22½". Special adaptations available.

model 900

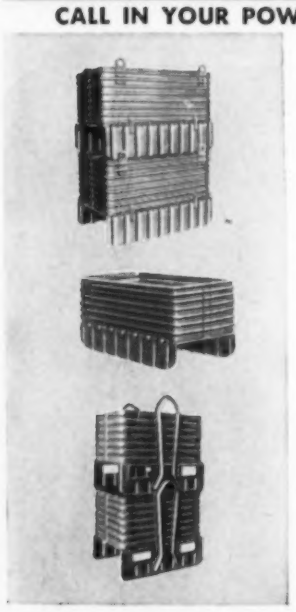
DRILLS ANY HOLE PATTERN

See your Commander Distributor for complete details. Write for the NEW Commander Full Line Catalog #851.

COMMANDER MFG. CO.
4220 W. Kinzie St. • Chicago 24, Illinois
Product of *Commander* . . . Builder of Production Tools

▲ For more details circle NED-10,155 on enclosed inquiry slip ▲

FOR STEEL BOXES
TO FIT ANY MATERIALS HANDLING JOB . . .
CALL IN YOUR POWELL REPRESENTATIVE



Powell makes a complete line of all-steel box and box platform units. Whatever the job there's a Powell box to handle it — and for those special jobs Powell's noted JOB-DESIGNED service will supply special designs at surprisingly low cost. Ask the Powell man in your area, or write direct.

NOTE: Due to the present national situation, if you can supply the steel, or issue a D.O. number, faster delivery of equipment is assured.

POWELL PRESSED STEEL SINCE 1920

POWELL PRESSED STEEL CO. • HUBBARD, OHIO
ORIGINATORS OF COLD FORMED ALL STEEL HANDLING EQUIPMENT
(In Greater Youngstown) Dept. 5121

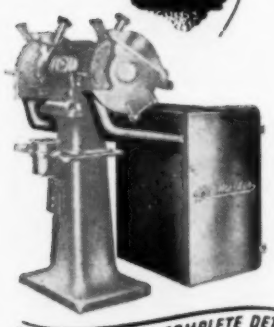
▲ For more details circle NED-10,156 on enclosed inquiry slip ▲

OUT OF THIS WORLD!

THE AIR MASTER keeps dust and grit out of your plant . . . instantly sucks them from the whirling wheels of your grinders and buffers. Dust and grit, tiny but destructive enemies of health and machinery, are completely eliminated right at the moment they fly off the wheels.

The AIR MASTER keeps the air clean. It provides healthful working conditions for your employees . . . keeps expensive machinery in working order by protecting delicate bearings and moving parts.

Install the AIR MASTER in your plant. It is fully self-contained . . . efficient, rugged, dependable. A size for every grinder and buffer.



WRITE TODAY FOR COMPLETE DETAILS

The Cincinnati
ELECTRIC DRILLS · GRINDERS
BUFFERS · PORTABLE TOOLS
AIR MASTER DUST COLLECTORS

THE CINCINNATI ELECTRICAL TOOL CO.
Division of THE R. K. LeBLOND MACHINE TOOL CO.
Dept. 51-MD Madison & Edwards Rds. Cincinnati 8, Ohio

▲ For more details circle NED-10,157 on enclosed inquiry slip ▲

New Literature—Continued

Water Conditioning Equipment

Penfield Mfg. Co.—Illustrative and descriptive data pertinent to water conditioning equipment for boiler feed, process and other industrial needs is found in 4-page catalog entitled "Penfield Water Conditioning Equipment." Units handle flow rate range from few gallons to 10,000 gph and up.

▲ For more details circle NED-10,158 on enclosed inquiry slip ▲

Electronic Equipment

Radio Shack Corp.—Over 15,000 types of electronic equipment, components and parts are listed in 192-page catalog. Among many items covered are telemetering recorders, JAN-approved parts, ASESA-certified potentiometers, radiation instruments, counters, tubes, rectifiers, transformers, controls, test equipment, radio-TV parts, receivers and mobile equipment.

▲ For more details circle NED-10,159 on enclosed inquiry slip ▲

Dustless Blast-Cleaner

Vacu-Blast Co.—The Vacu-Blaster, described as a blast-cleaner with dustless vacuum pickup which removes abrasives and debris simultaneously with blasting operation, is the subject of 20-page illustrated brochure No. 2189. Sections deal with unit's application to welding, maintenance and unusual cleaning operations.

▲ For more details circle NED-10,160 on enclosed inquiry slip ▲

Corrosion Resistant Cast Iron

International Nickel Co.—36-page illustrated bulletin "Engineering Properties & Applications of Ni-Resist" describes eight types of austenitic nickel alloy cast irons. Alloys withstand corrosion, heat, wear and low temperature. Additional advantages include high or low controlled expansion, magnetic or nonmagnetic properties and resistance to thermal shock. Corrosion data are included on nearly 400 conditions.

▲ For more details circle NED-10,161 on enclosed inquiry slip ▲

Flexible Liquid-Tight Wiring Conduit

American Brass Co.—Details about Sealtite conduit which is both liquid-tight and flexible are presented in 4-page illustrated bulletin C-201. Available in ⅜ to 2-in. inside diameters, conduit consists of core of flexible galvanized steel tubing over which synthetic jacket is extruded. Jacket resists action of oil, water, chemicals, corrosive fumes, dirt and abrasion.

▲ For more details circle NED-10,162 on enclosed inquiry slip ▲

Torque Tools & Testing Equipment

Richmont, Inc.—16-page illustrated catalog and price list "Proper Torque" covers torque testing equipment, Livermont Torq-Stop wrenches and Roto-Torq screwdrivers. Tools are available in wide range of sizes and torque capacities.

▲ For more details circle NED-10,163 on enclosed inquiry slip ▲

Optical Comparators

Jones & Lamson Machine Co.—Operating principle and applications of precision optical comparators are clearly explained in 36-page illustrated catalog No. 402. These instruments provide means for measuring and inspecting simple as well as complex parts with speed and accuracy. Models are available with up to 30-in. screens, and measurements can be made within 0.0001-in.

▲ For more details circle NED-10,164 on enclosed inquiry slip ▲

Transparent Machine Guard

Dilley Mfg. Co.—Transparent plastic guards for lathes, milling machines and other equipment ranging in size from 6 x 8 in. to 12 x 16 in. are described in 4-page illustrated bulletin "Stand Guard." Permanent magnet holds shield firmly in any desired position on machine.

▲ For more details circle NED-10,165 on enclosed inquiry slip ▲

Molds For Plastics

Carpenter Steel Co.—Practical guidance in the selection, application and heat treatment of steel for plastic molding is contained in 40-page illustrated book "Tooling Up for Plastics." Included is mold selector table which briefly states applications of complete line of mold steels, and lists their properties and characteristics. Tools steels for hobs are described.

▲ For more details circle NED-10,166 on enclosed inquiry slip ▲

Spade & Core Drills

Conner Tool & Cutter Co.—Data on spade and core drills in stock sizes from 1 1/64 to 5-in. diameters in steps of 1/64-in. and with eight sizes of holders are given in 52-page illustrated catalog No. 51. Types are available for use on existing shop equipment.

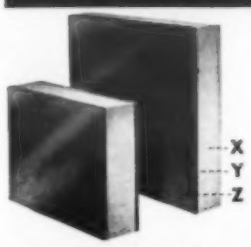
▲ For more details circle NED-10,167 on enclosed inquiry slip ▲

Electrical Terminal Blocks

Kulka Electric Mfg. Co.—12-page illustrated bulletin "Terminal Blocks" shows available types of units which reduce assembly costs, simplify wiring work and assure positive, lasting connections. Blocks with screw and eyeletted terminals are offered in various sizes and lengths to meet practically any wiring need.

▲ For more details circle NED-10,168 on enclosed inquiry slip ▲

CHEMELEC MULTI-BOND



X. *Pure Dielectric Material*
Y. *Multi-Bond Area*
Z. *Conducting Metal Surface*

Metal Faced TEFLON*

Here is the answer to the bonding and hermetic sealing of dielectric materials to metal components.

Chemelec Multi-Bond is metal-faced pure or filled TEFLON, produced by an exclusive (patents pending) method of uniting fluorocarbon resins and metals with an interlocking bond unaffected by severe mechanical shock, vibration and unequal rates of thermal expansion.

The bond is micro-crystalline in structure and gradually changes from dielectric to metal, the conducting metal surface being applied by electro-deposition or other conventional means.

Facing metals include practically all the ferrous and non-ferrous metals, the ferro magnetic group and the precious metals.

Sheets are available, metal faced on one or both sides, in thickness from .034 to 1.75 in. and in sizes up to 36 in. square. Write for Bulletin MI-424.

**du Pont's trademark for its tetrafluoroethylene resin.*

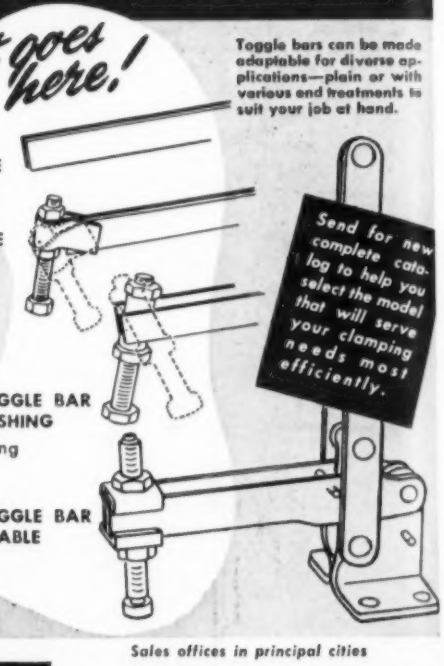
UNITED STATES GASKET COMPANY
FLUOROCARBON PRODUCTS DIVISION
654 N. 10TH STREET, CAMDEN, N.J.
FOREMOST FABRICATORS OF "TEFLON" AND OTHER FLUOROCARBON PLASTICS

▲ For more details circle NED-10,169 on enclosed inquiry slip ▲

KNU-VISE CLAMPS PROVIDE UNUSUAL VERSATILITY

What goes on here!

Toggle bars can be made adaptable for diverse applications—plain or with various end treatments to suit your job at hand.

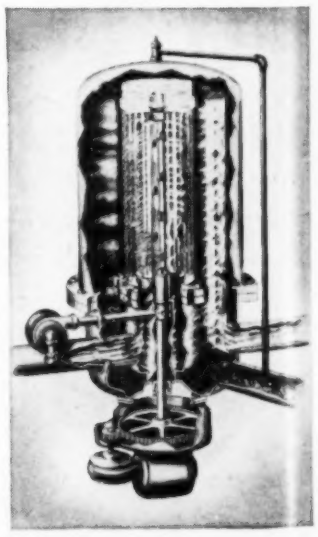


Sales offices in principal cities

KNU-VISE PRODUCTS
LAPEER MFG. CO.
3062 DAVISON ROAD • LAPEER, MICHIGAN
WESTERN DIVISION: 422 MAGNOLIA ST. GLENDALE, CALIF.

▲ For more details circle NED-10,170 on enclosed inquiry slip ▲

Save Water . . . Cut Bills
with this strainer



Make raw river or lake water fit for industrial use by passing it through a Cuno FLO-KLEAN.

FLO-KLEAN strains out trash at flow rates up to 20,000 gpm. No attention needed—with continuous backwash cleaning* of the strainer and automatic top and bottom blow-down.

Reclaim used process water with FLO-KLEAN—save water bills and heating costs.

Write for FLO-KLEAN bulletin—see how FLO-KLEANS have paid for themselves in as short a time as six months. Cuno Engineering Corporation, Dept. 703F, South Vine Street, Meriden, Connecticut.

*Even the backwash water is reclaimed—not a drop wasted!

CUNO
Fluid Conditioning
Removes More Sizes of Solids from More Types of Fluids

▲ For more details circle NED-10,171 on enclosed inquiry slip ▲

Simple • Accurate GROUND RESISTANCE TESTING with

VIBROGROUND

- Push-Button Operation
- Direct-Reading
- Completely Self-Contained
- True readings, regardless of earth resistance and condition, stray frequencies, voltages or currents

YOU can be sure of safe, effective grounding of all types of electrical systems when you test with the light, easy-to-use Vibroground. Simple operation and built-in accuracy virtually eliminate reading errors. No leveling, cranking or outside power source is necessary; and direct readings are independent of auxiliary probe resistance.

Full data on Vibrogrounds, including testing techniques and illustrations, is yours for the asking.

Write for BULLETIN 105

ASSOCIATED RESEARCH, Incorporated

"Precision Instruments Since 1936"

3786 West Belmont Avenue • Chicago 18, Illinois

For more details circle NED-10,172 on enclosed inquiry slip

3 Spray Cleaners

that reduce pressure cleaning to a routine operation

SC-2-E is a water-solvent emulsion that performs better than straight solvents, can be operated continually without any redeposition from the bath, provides positive cleaning and long life.

SC-4 is in the classification of high alkalinity materials buffered for use on non-ferrous metals . . . equally adaptable to steel.

SC-9 provides the advantages of both alkali and solvent emulsions . . .

Within the scope of these three spray cleaners, you will find the answer to any pressure cleaning problem. Compare the cost of these products with any other cleaning method . . . Whether your operation is a single stage or a multiple cleaning sequence, you will find these products equally economical and effective . . . Ask the Northwest man in your area for his recommendation or write to us for complete information . . .

For more details circle NED-10,173 on enclosed inquiry slip

GRC ZINC ALLOY WING NUTS

GET AROUND you'll see them on HYDE "SPEEDSTER" SCRAPERS

. . . and wherever specifications call for fastenings that are rustproof • corrosion-resistant • easy to assemble and disassemble • extra easy to service • durable, dependable, attractive.

Available in all popular thread sizes and commercial finishes. Also specials made to order.

Write for samples and prices today

GRIES REPRODUCER CORP.

World's largest producer of die cast Wing Nuts

82 Willow Ave., New York 54, N. Y. • MOtt Haven 5-7400

For more details circle NED-10,174 on enclosed inquiry slip

New Literature—Continued

Industrial Products

Clark Equipment Co. — 32-page illustrated booklet "How the Products of Clark Serve Industry" gives information on truck axles and transmissions, axle housings, combination axle-transmission drive units for tractors, gears, forgings, industrial towing tractors, fork-lift trucks and attachments, powered hand trucks and stackers.

For more details circle NED-10,175 on enclosed inquiry slip

Twin Column Punch Presses

Wales-Strippit Corp.—Catalog TC contains 8 pages of design and application data on the new Wales twin column punch presses for all types of blanking, forming, drawing and bending. These machines can use Wales adjustable hole punching and notching equipment. Self-contained shearing attachment is available for precision shearing operations.

For more details circle NED-10,176 on enclosed inquiry slip

Spray Painting Equipment

DeVilbiss Co.—"Sprayways," a graphic 16-page rotogravure brochure, is ready reference to spray equipment. Actual scenes in industrial plants and other locations depict multitude of applications and available equipment for modern spray finishing of all types of products. Related equipment such as exhaust systems, air compressors, hose and connections are covered.

For more details circle NED-10,177 on enclosed inquiry slip

Liquid Level Gages

Jerguson Gage & Valve Co.—Remote reading liquid level gages are subject of 8-page illustrated bulletin No. 176. Models are available to indicate maximum of 100 in. of level variation at pressures up to 1500 psi. Instruments for greater ranges can be supplied on order.

For more details circle NED-10,178 on enclosed inquiry slip

Glass

Mississippi Glass Co.—Offered as aid to engineers, architects, contractors and others, 16-page catalog 52 contains photographs and light distribution charts on rolled, figured and wired glass. Technical information is included on Coolite heat absorbing and glare reducing glass.

For more details circle NED-10,179 on enclosed inquiry slip

Blast Cleaning

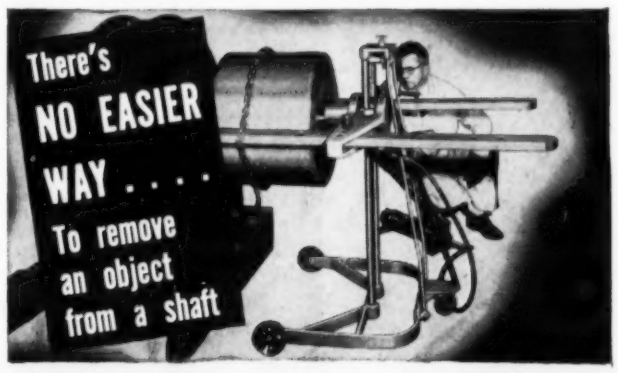
American Wheelabrator & Equipment Corp.—How airless abrasive blasting can solve cleaning problems in industries concerned with ordnance material production is explained in illustrated bulletin No. 794. Equipment and procedures used in cleaning shells and bombs, tank parts, artillery components and aircraft engine parts are shown and described.

For more details circle NED-10,180 on enclosed inquiry slip

Clutch & Hydraulic Drive Applications

Twin Disc Clutch Co.—Almost 60 applications of friction clutches and hydraulic drives in as many types of machinery and equipment are described in 32-page Cross Country issue of "Production Road." Original equipment or repowered machinery applications are in wide variety of industries.

For more details circle NED-10,181 on enclosed inquiry slip



The New, Improved Hydraulic

PULLEY PULLER

Enables one man to remove a pulley, gear, pinion, or other object from a shaft in minutes! No crow bars, sledges, or blow torches. No damage. Puller is adjustable, easily moved, rugged. Hundreds now in use in industry.

5-ton size **$62.50**

20-ton size **$290.00**

50-ton size **$655.00**

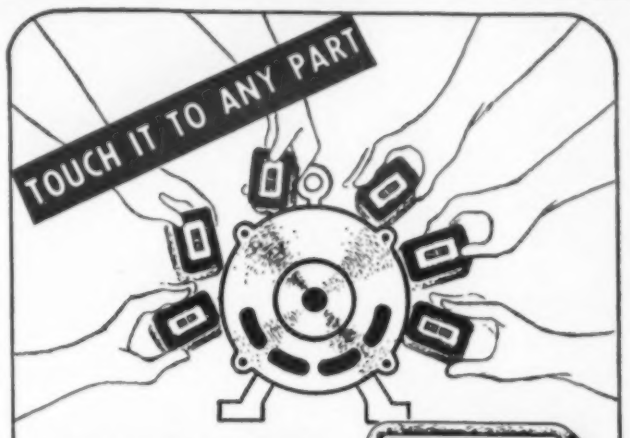
(F.O.B. Factory)

Write for complete information — Catalog C

INDUSTRIAL ENGINEERING EQUIPMENT CO.

122-124 E. 4th St. Davenport, Iowa

For more details circle NED-10,182 on enclosed inquiry slip



MEASURES SPEED by *RANDOM TOUCH*

MINIATURE FRAHM® RESONANT REED TACHOMETER

Measures speed of a turbine, gyro or centrifuge as quickly and accurately as the speed of a fractional hp motor—merely by touching it to any part of the machine *casing* . . . a great safety factor in crowded quarters. Can also be permanently mounted anywhere on the machine. Vibrating reeds give direct scale reading. No moving parts. Practically indestructible. Eleven standard ranges from 1000-1500 to 9000-13000 rpm. Price, $27.00. Mounting bracket, $3.00—or case $1.50. (Other types in ranges up to 100,000 rpm.) Bulletin 31-D.

JAMES G. BIDDLE CO.

ELECTRICAL & SCIENTIFIC INSTRUMENTS

1316 ARCH STREET • PHILADELPHIA 7 PENNA

For more details circle NED-10,183 on enclosed inquiry slip

Faced with the need for speeding up production . . . finishing . . . packing schedules?

Here's quick, complete information on two new ways to do it . . . either with lacquer or enamel . . . for either wood or metal application!

Opex Industrial Lacquer and Fast-Dri Synthetic Enamel are two of a complete line of Sherwin-Williams quality finishes especially designed to meet production line requirements—and as close at hand to you as your local Sherwin-Williams Branch.

Check this handy local source for your industrial product finish needs—consult your classified telephone directory for location of your nearest Branch—or mail the coupon below for the Brochures shown above.

SHERWIN-WILLIAMS

INDUSTRIAL FINISHES

THE SHERWIN-WILLIAMS CO.
General Industrial Division, Cleveland 1, O.

☐ Please send copy of S-502—"Fast-Dri Synthetic Enamel" and L-503—"Opex Industrial Lacquer"

☐ Please send information on: _____ (Type of finish)

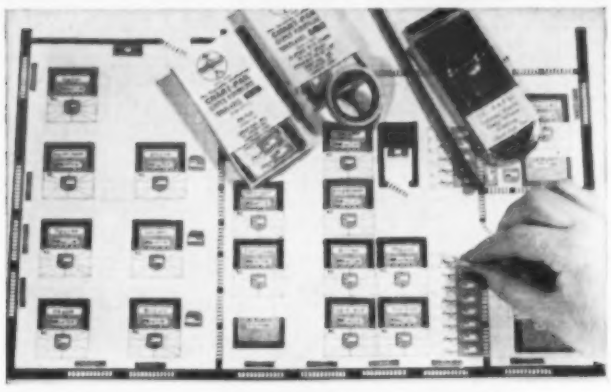
for _____ (Application)

Name _____

Company _____

Address _____

For more details circle NED-10,184 on enclosed inquiry slip



SIMPLIFY YOUR OFFICE PLANNING . . . PLAN WITH CHART-PAK

For easier and more efficient planning, CHART-PAK has developed new type office templates and a new method of applying them.

With the CHART-PAK METHOD, you can quickly make realistic layouts for preview with executives and employees.

These new templates can be readily applied to any plan scaled ¼" to 1'. For the final plan you simply remove the backing and apply them without moistening—no fussy drawing, redrawing or gluing.

A handy $12.50 kit contains over 400 die cut desks, file cases, utility pieces, etc. The utility templates may be used to indicate office or factory equipment for pieces as large as 84" x 38".

Send for free sample layout of minimum spacing for maximum space utilization.

CHART-PAK, INC. 104-K LINCOLN AVE., STAMFORD, CONN.

"Originators of the CHART-PAK Method of Making Organization and Graphic Charts and Office Layouts"

▲ For more details circle NED-10,185 on enclosed inquiry slip ▲

pre-color before you fabricate

ENAMELSTRIP

STEEL, ALUMINUM, AND BRASS PRE-FINISHED

COLOR COIL

SO MANY ADVANTAGES!

Yes, you can fabricate metal parts and products more easily in any color, any type of chemical finish . . . and save time and money! Enamelstrip's exclusive process of pre-treating and finishing continuous-feed metal coil achieves a flexible, lustrous finish which withstands the stresses of drawing, bending and forming without cracking or peeling. Users of ENAMELSTRIP can forget such costly, time-consuming operations as hand feeding, shearing, cleaning, tumbling, spraying, dipping, rustproofing, baking, drying.

LOOK INTO ENAMELSTRIP TODAY

See how you can improve production and profits. Write for descriptive bulletin.

Any metal in any color coated and slit to your specifications.

National Sales Representatives

THE COATED COIL CORPORATION

507 West 30th St., New York 1 • Phone: LOngacre 5-3161

▲ For more details circle NED-10,186 on enclosed inquiry slip ▲

New Literature—Continued

Fluorescent Lighting Ballasts

General Electric Co.—Illustrated 20-page bulletin GEA-5731 and 4-page bulletin GEA-5672 deal with fluorescent lamp ballasts. First uses cartoons and diagrams to portray rôle of the ballast in modern lighting and explain operation of fluorescent lighting fixtures. Second describes new system of "sound-rating" employed to classify ballasts in accordance with amount of hum they emit.

▲ For more details circle NED-10,187 on enclosed inquiry slip ▲

Explosionproof Motors

U. S. Electrical Motors, Inc. — Totally-enclosed and explosionproof motors are subject of 8-page illustrated bulletin entitled "Safe." Types and sizes are available for hazardous and nonhazardous service and include fan cooled models up to 75 hp, fanless units of ¼ to 2 hp. Synchrogeared motors with output speeds of 10 to 10,000 rpm, vertical models and Varidrive units which are infinitely adjustable from 2 to 10,000 rpm.

▲ For more details circle NED-10,188 on enclosed inquiry slip ▲

Scientific Apparatus

Scientific Apparatus Makers Association — 28-page directory of members lists companies, addresses, chief executives and products. Sections include industrial instrument, laboratory apparatus, laboratory equipment, optical, recorder-controller, surveying and drafting, and nautical, aeronautical and military instrument manufacturers.

▲ For more details circle NED-10,189 on enclosed inquiry slip ▲

Defense Production Facilities

Peters Machinery Co. — 8-page illustrated booklet "Background for Service" describes personnel, experience and facilities of company for defense subcontract work. Normally producing packaging, bakery and food production machinery, company is equipped to manufacture wide variety of aircraft, artillery and marine parts and equipment.

▲ For more details circle NED-10,190 on enclosed inquiry slip ▲

Aircraft Steels

Joseph T. Ryerson & Son, Inc.—Revised edition of "Ryerson Aircraft Steels" is 72-page handbook which includes latest military specifications, and available sizes and analyses of aircraft steels carried in stock. Thoroughly indexed, this manual is available to anyone concerned with specification or purchase of steel that must meet aeronautical specifications.

▲ For more details circle NED-10,191 on enclosed inquiry slip ▲

Heat & Corrosion Resistant Fabrications

Rolock Inc.—Catalog No. B-8 contains descriptions and illustrations of 75 custom-built fabricated alloy heat treating baskets, crates, racks, retorts, trays, muffles, fixtures and other equipment. Fabrications will retain shape in high temperatures and corrosive conditions encountered during heat treating and cleaning operations.

▲ For more details circle NED-10,192 on enclosed inquiry slip ▲

Solderless Connectors

Thomas & Betts Co.—Three lines of pressure fittings—Lock-Tite for all cable sizes, Tite-Bind and Hinjon lines—are described and illustrated in 56-page illustrated bulletin No. 66. Listed are connectors, lugs and taps for all types of copper conductors from No. 14 through 2 million circular mills. Sections are devoted to Navy approved and bus bar fittings.

▲ For more details circle NED-10,193 on enclosed inquiry slip ▲

Molded & Laminated Plastics

Richardson Co.—24-page illustrated booklet "Facts About Plastics" gives layman basic introduction to many different plastics now in use, various ways they are produced and uses of plastics in industrial and consumer products. Advantages and limitations, how laminated and molded plastics are made, design suggestions and company products, services and facilities are detailed.

▲ For more details circle NED-10,194 on enclosed inquiry slip ▲

Lathes, Drill Presses & Shapers

South Bend Lathe Works—Despite small size, two 2½ x 1⅝-in. catalogs contain clear illustrations and highly legible type describing line of precision lathes, drill presses, shapers, attachments and accessories. Each contains 28 pages and expands to 35 in. long.

▲ For more details circle NED-10,195 on enclosed inquiry slip ▲

Industrial Furnaces

Written by W. Trinks, a leading authority on industrial furnace design and construction, this fourth edition of "Industrial Furnaces," Volume I, is brought up-to-date by incorporating recent data on heat transfer and furnace design, as well as present-day design, operating principles and techniques. It is divided into sections on capacity, economy, thermal efficiency, strength and durability, and movement of gases in furnaces. The 526-page book contains over 400 charts, diagrams, drawings and photographs. Price is $12.50. Published by John Wiley & Sons, Inc., 440 Fourth Ave., New York 16, N. Y.

▲ For more details circle NED-10,196 on enclosed inquiry slip ▲

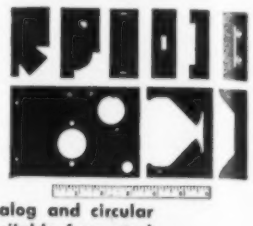
BLANKING, NOTCHING, PARTING, EMBOSSING?

- FAST DIE CHANGES, with standard Punches and Dies.
- 15 Ton capacity.
- Patented Leaf Assembly provides accurate punch and die alignment.

Leslie Model A Hand Punch Press $120.00 F.O.B. Chicago

- 6" throat depth permits reaching to center of 12" piece.
- Large Punch Plate and Bed permits blanking over big areas.

Diagram illustrates versatility of Press—each blanking done with 1 stroke.

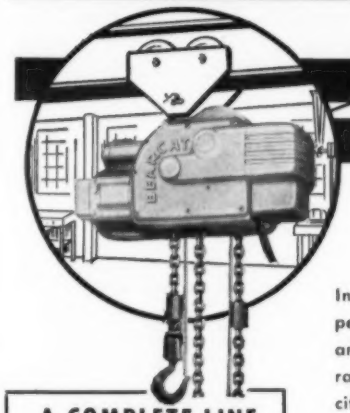


Tool your jobs at low cost from our wide variety of standard punches and dies.

Write now for illustrated catalog and circular showing punches and dies available from stock.

LESLIE WELDING CO.
2939 W. Carroll Ave., Chicago, Ill.

▲ For more details circle NED-10,197 on enclosed inquiry slip ▲



INTER-CHANGEABILITY

Interchangeability of spur gears permits a range of hook speeds and load capacities — speeds range from 12 to 50 FPM, capacities from 170 to 2000 lbs. Its extremely light weight, sturdy construction and dependable operation make the "Bearcat" an all-around work hoist. It boasts a high safety factor . . . offers long, trouble-free service. For lower material handling costs, specify the "Bearcat" Electric Hoist. Write for Bulletin P-53.

A COMPLETE LINE OF HOIST PRODUCTS

Harrington Hoist Products are backed by more than 75 years' experience in the design and manufacture of materials handling equipment.

PEERLESS PACKET HOISTS Bulletin P-5
TROLLEY HOISTS Bulletin P-35
PEERLESS HOISTS MODEL C Bulletin P-11
"CUMALONG" LEVER PULLERS Bulletin P-27
TROLLEYS Bulletin P-65

MAKERS OF HOISTS SINCE 1876

THE HARRINGTON COMPANY
1650 W. CALLOWHILL ST.
PHILADELPHIA 30, PENNA.

▲ For more details circle NED-10,198 on enclosed inquiry slip ▲

USE PANNIER "MASTER MARKER" Nicked and Notched

METAL SAFETY TAGS for Positive Identification and safe, efficient handling

Materials and tools are efficiently separated, stock bins easily marked and shipping legibly identified when you use Pannier SAFETY TAGS. Durable, easily attached, and proof against defacing, these tags are supplied blank or with company name; are available in individual units or coiled lengths, and in tin, copper, brass, aluminum, steel, stainless steel and other metals .014" thick or lighter. Coiled tags are nicked for easy separation, and notched for proper feeding into Pannier or other embossing machines; are available with slots or holes as desired.

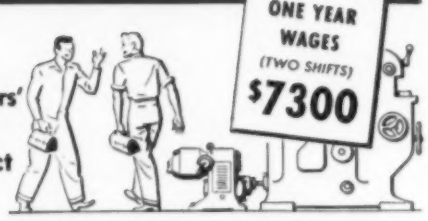
FREE DATA!
Ask for Bulletin D-10, giving full information about Pannier SAFETY TAGS and Embossing Equipment.

OFFICES: Chicago • Los Angeles • Youngstown • Philadelphia • Jacksonville

THE PANNIER CORPORATION
301 Pannier Building
Pittsburgh 12, Pa.

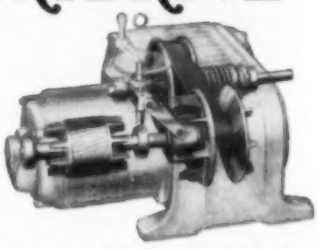
▲ For more details circle NED-10,199 on enclosed inquiry slip ▲

Beat the rap of high labor costs



- Step up your output
- Increase workers' ability
- Improve product quality with

U.S. VARIDRIVE



Assume you are paying operators $1.75 per hour for two 8-hour shifts per day. That's $7300 annually for labor—probably far more than the machine cost. By installing a *U. S. Varidrive Motor* you can offset high and rising labor costs to the tune of 10%, 20%, 30% or more. Varidrive gives you infinite changeable speeds instantly. Operator efficiency is increased; so is production.

In countless instances the U. S. Varidrive Motor has paid for itself within a few weeks by stepping up output. Our Bulletin tells you why.

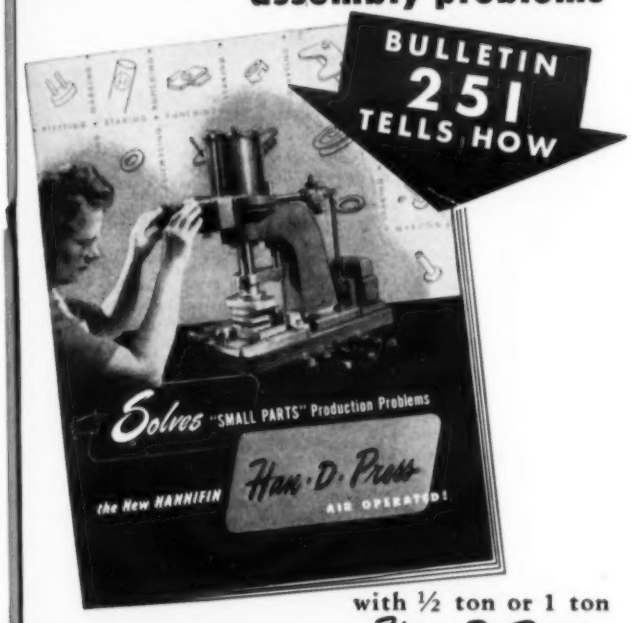
2 TO 10,000 RPM
¼ to 50 hp

US MOTORS

U.S. ELECTRICAL MOTORS Inc.
Box 2058, Los Angeles 54, Cal. or Milford, Conn.

For more details circle NED-10,200 on enclosed inquiry slip

Solve "small parts" assembly problems



- Assemble
- Press
- Rivet
- Stake
- Punch
- Mark . . .

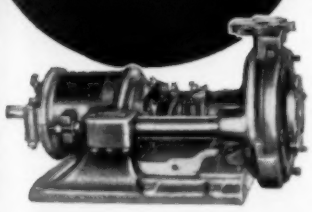
with ½ ton or 1 ton Han-D-Press the new Hannifin air-operated bench press.

write HANNIFIN

Hannifin Corporation • 1127 S. Kilbourn Ave. • Chicago 24, Ill.

For more details circle NED-10,201 on enclosed inquiry slip

What Makes a Good Chemical Pump?



NAGLE TYPE TW CHEMICAL PUMP

1. High efficiency open impellers reduce the horsepower requirements.
2. Big heavy-load shafts and anti-friction bearings individually lubricated—withstand heavy loads year after year.
3. Water-end clamp ring eliminates studs and tapped holes. Simply loosen the set screws, give the plate a ⅛ turn and it's off.
4. A simplified double stuffing box, easily reached from above or below—another Nagle low cost servicing feature.
5. Drip pan and splash cover—arranged to protect all important structural members from corrosive liquids.
6. Casing, impeller and end-plate—the only parts that contact the mixture being pumped.

Nagle Pumps are available for every type of corrosive and abrasive application. Write for Bulletin 4906 . . . today!

Nagle Pumps, Inc.
INDUSTRIAL PUMPS FOR ABUSIVE APPLICATION
1265 Center Ave. Chicago Heights, Ill.

For more details circle NED-10,202 on enclosed inquiry slip

New Literature—Continued

Expanded Metal Meshes

Penn Metal Co.—How use of expanded metal saves steel is presented in 24-page illustrated booklet No. 493 EM which follows theme "how to make a little metal go a long way." Savings in time and weight are also realized by use of expanded metal which allows free passage of light and air.

For more details circle NED-10,203 on enclosed inquiry slip

Boiler Service Valves

Everlasting Valve Co.—20-page illustrated bulletin E125 describes quick opening and slow opening straightway valves, angle and Y valves and duplex blow-off units for boiler services. Specifications, construction, materials and dimensions of each are given, along with sectional and exploded views.

For more details circle NED-10,204 on enclosed inquiry slip

Adhesives, Coatings & Sealers

Minnesota Mining & Mfg. Co., Adhesives & Coatings Div.—Research aid in using adhesive, coatings and sealers in product design and engineering is offered in 8-page illustrated handbook. It reports availability of 1000 different basic formulas, provides technical data on 11 adhesives, 7 coatings and 7 sealers and offers field and laboratory assistance in solving adhesive problems.

For more details circle NED-10,205 on enclosed inquiry slip

Conductivity Recorders & Controllers

Minneapolis-Honeywell Regulator Co., Brown Instruments Div.—40-page illustrated catalog No. 15-16 covers equipment for recording and controlling pH, oxidation-reduction potential and electrolytic conductivity. Included are fundamental operating principles, descriptions of measuring systems and details of components, plus typical applications.

For more details circle NED-10,206 on enclosed inquiry slip

Radio Chemicals & Hardware

General Cement Mfg. Co.—Radio chemicals, radio and television parts and service aids, alignment tools and radio hardware are listed in 64-page illustrated catalog No. 155. General specifications, features, sizes and price data are also given.

For more details circle NED-10,207 on enclosed inquiry slip

Heat Treating & Metalworking Data

E. F. Houghton & Co.—Based on defense production experience gained from World War II, 52-page illustrated booklet "Defense Production Data from the Houghton Line" is supplemented with data on latest manufacturing and processing techniques. It covers heat treating and metalworking operations involved in producing shells, rockets, guns, ammunition, aircraft and tank parts and other defense items. Many manufacturing steps are explained in detail.

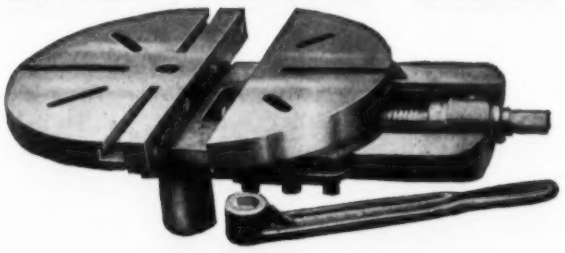
For more details circle NED-10,208 on enclosed inquiry slip

Fluorescent Lighting Units

Mitchell Mfg. Co.—Wide variety of commercial lighting needs can be met by line of fluorescent lighting units described and illustrated in catalog No. 433. Featured are slimline models, open type glass shielded and louver shielded troffers, strip lighting units, streamlined shielded luminaires and spotlights.

For more details circle NED-10,209 on enclosed inquiry slip

Try the MODERN SAFETY DRILL TABLE



For Faster, SAFER Work in Your Maintenance Department

Combines a drill table, a vise, a set of parallels and V block. No more lost fingers from hand held jobs that slip. No more 30 minute set-ups for a 1 minute drilling operation. Made in 6 sizes from 8" to 28" dia. We guarantee each Safety Drill Table will save its cost on labor alone in 6 months, to say nothing of plant down time when vital maintenance is delayed even a few minutes.

FREE TRIAL OFFER

WRITE FOR FREE FOLDER

Shows many typical set-ups and use on radial drills. Complete specifications on all models. Covers MONEY BACK GUARANTEE and 30 DAY FREE TRIAL OFFER.

MODERN MACHINE TOOL CO.
Jackson, Michigan

For more details circle NED-10,210 on enclosed inquiry slip

STEELBAND Leads the Band

Now is the time to order Allegheny STEELBAND strapping, seals, tools, and accessories to insure your present and future needs. Our company is rapidly expanding to meet the growing demand for our products.

ALLEGHENY STEELBAND CO.
Box 716, Pittsburgh 30, Pa.
(WAlnut 1-7100)

STRAPPING AND SEALS | STEELBAND | ACCESSORIES AND TOOLS

For more details circle NED-10,211 on enclosed inquiry slip

POWERFUL Fans and Blowers

AND Your Hartzell Field Office PUTS HARTZELL ENGINEERING RIGHT IN YOUR BACK YARD!

If you foresee an air-moving problem for the future (any kind of an air-moving problem), call your nearby Hartzell man in now. A fully experienced direct factory representative will call on you promptly — ready to work with you, make recommendations and quote costs. If you don't know your nearest Hartzell office, drop us a line. There's a Hartzell representative near you and he's there to help you get results.

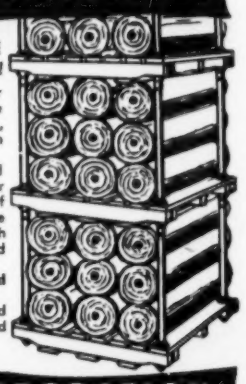
HARTZELL PROPELLER FAN CO.
DEPT. G DIV. OF CASTLE HILLS CORP. PIQUA, OHIO
engineering representatives in principal cities

For more details circle NED-10,212 on enclosed inquiry slip

STOP WASTING VALUABLE AIR SPACE!

PALTIER Utilizes AIR RIGHTS!

—STACKS CRUSHABLE AND ODD-SHAPE MATERIALS SAFELY—WITHOUT DAMAGE!



Whatever the size, shape and nature of your material, you can use the air space of your storage area—and make a better return on maintenance, upkeep and taxes—by stacking it in tiers with PALTIER pallets.

The Flexible PALTIER is an engineered and ruggedly constructed wood pallet fitted at the four corners with exclusive, patented sockets. Posts of the required length and strength slip-fit into these sockets and carry a nesting cone at the top which assures perfect alignment for the upper pallets, and helps the fork truck operator position the load.

NOW—practically anything can be palletized and stacked in tiers to make full use of air rights.

Learn more about this amazing, practical method of stacking stored materials. Fill in coupon and attach to company letterhead for prompt reply.

THE PALTIER CORPORATION
1701 KENTUCKY STREET • MICHIGAN CITY, INDIANA

Send detailed information on PALTIER Wood Stacking Pallets and examples of typical installations.

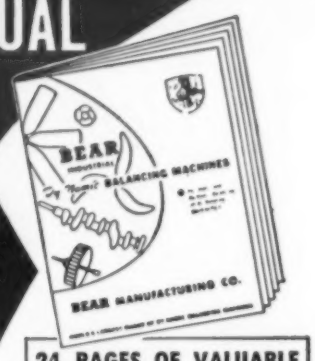
Our materials are _____

Name _____
Company _____
Address _____
City _____ Zone ____ State ____

For more details circle NED-10,213 on enclosed inquiry slip

FREE MANUAL

tells how DY-NAMIC BALANCING CAN IMPROVE YOUR DEFENSE PRODUCTION!



This New "Bear" Manual will show you how Dy-Namic Balancing can aid your defense production program these two ways:

1 Improve finished product performance by eliminating mechanical failures and assuring greater efficiency and longer life. Gives you the quality standards to help meet many government contract specifications.

2 Keep your own equipment operating without interruption. Periodic checking and Dy-Namic Balancing of rotating parts in your machinery and production equipment will reduce bearing wear and noise and eliminate costly downtime for repairs.

Write today for your free copy. Bear Mfg. Co., Dept. N-5, Rock Island, Illinois.

24 PAGES OF VALUABLE INFORMATION LIKE THIS:

- How To Balance Parts From 4 Oz. to 8 Tons!
- What Is Dy-Namic Un-balance?
- The Difference Between Static and Dy-Namic Un-balance!
- How To Balance Rotating Parts Statically and Dy-Namically In One Operation!
- How Other Plants Are Using Dy-Namic Balancing To Save Time and Money!
- How Dy-Namic Balancing Improves Product Performance!
- How Dy-Namic Balancing Reduces Wear, Eliminates Noise And Vibration.
- Details, Specifications And Engineering Data About Complete Line of "Bear" Industrial Dy-Namic Balancing Machines.

5477

"BEAR" STATIC AND *DY-NAMIC BALANCING* MACHINES

For more details circle **NED-10,214** on enclosed inquiry slip

Relays BY GUARDIAN SERVE ALL FRONTS!

WHETHER FOR PEACE OR DEFENSE a great responsibility is vested in electrical control. In this era of defense there is an urgent demand for electrical controls in *quantity* with the highest degree of *quality* at economical cost. How efficiently Guardian Electric has moved to meet these requirements is convincingly told by the millions of Government Approved Controls by Guardian now being used in planes . . . in tanks . . . in communications . . . in bomb releases . . . in radar . . . in guided missiles . . . in gun controls. Also by "Guard-A-Seal" *hermetically sealed* relays. Write.

GUARDIAN ELECTRIC
1626-P W. WALNUT STREET CHICAGO 12, ILLINOIS
A COMPLETE LINE OF RELAYS SERVING AMERICAN INDUSTRY

For more details circle **NED-10,215** on enclosed inquiry slip

CUT YOURSELF A KEYWAY

as easy as carving a slice off the bird

DO IT QUICK — any width keyway from 1/16" to 1", in any bore from 1/4" to 3" in SIXTY SECONDS.

DO IT CHEAP — with the "Minute Man" Broach you cut keyways for as little as a penny apiece, instead of the dollars it takes on a big machine tool.

DO 'EM ALL — du Mont makes 21 standard sets; 23 standard sizes of broaches, 59 standard size bushings, and a wide range of special production type guideless broaches.

MAIL THIS COUPON FOR INFO AND PRICES

The du MONT CORPORATION, Greenfield, Mass.

Please mail descriptive folder and price list D on *Minute Man Keyway Broaches and Kits.*

Name.....

Company.....

Address.....

For more details circle **NED-10,216** on enclosed inquiry slip

New Literature—Continued

Way To Better Packaging

Peters Machinery Co.—Engineering services offered and line of forming and lining and folding and closing machinery are covered in this 8-page illustrated booklet "The Peters Way to Better Packaging." Machine features and specifications are given.

For more details circle **NED-10,217** on enclosed inquiry slip

Swiss Pattern Files

DoALL Co.—8-page illustrated brochure No. 51-821 features Heller Swiss pattern files of following types: diemaker, machine, needle and riffler. Price, size and data on various styles are given.

For more details circle **NED-10,218** on enclosed inquiry slip

Electric Stairways

Westinghouse Electric Corp., Elevator Div.—32-page illustrated booklet B-4582 introduces reader to electric stairway through cutaway view, then tells how each part is produced to insure long trouble-free life. Available sizes, price data, applications and arrangement and layout information are given.

For more details circle **NED-10,219** on enclosed inquiry slip

Thermocouple Wells

Minneapolis-Honeywell Regulator Co., Brown Instruments Div.—Technical information on selection of proper thermocouple well for any application is given in 28-page illustrated catalog No. 200-1. Curves show method of selecting well shape and thickness. Dimensional drawings, basic prices and how to select correct well material are also included.

For more details circle **NED-10,220** on enclosed inquiry slip

Corrosion Resistant Alloys

Ampco Metal, Inc.—Corrosion and erosion resistance and cavitation-pitting data on Ampco aluminum bronze alloys is presented in 20-page illustrated bulletin PI-3. Also given are physical and chemical properties and metalworking and welding characteristics of grade 8 sheet and plate. Information on corrosion resistant parts made with alloy and available testing facilities is given.

For more details circle **NED-10,221** on enclosed inquiry slip

Reducing Spring Costs

Newcomb Spring Corp.—"66 Hints To Simplify Design and Reduce Spring Costs" is title of 8-page illustrated bulletin NS 500. Hints are grouped under purchasing, materials, finishes, gages, general hints on all spring types, hydrogen embrittlement, compression, extension and torsion springs and table of popular spring materials, their applications and civilian and government specification numbers.

For more details circle **NED-10,222** on enclosed inquiry slip

Tube Fittings

Crawford Fitting Co.—Line of Swagelok tube fittings available in brass, aluminum, steel, stainless steel and Monel is covered in 12-page illustrated catalog B-151. Dimensional information, cross-section drawings, installation recommendations and assembly instructions are included.

For more details circle **NED-10,223** on enclosed inquiry slip

Welding Rods & Procedures

American Brass Co.—Applications and procedures for production and repair welding, and for building up worn surfaces with bronze rods are covered in 24-page illustrated booklet B-13. Welding techniques described include oxyacetylene torch, metal-arc, carbon-arc and inert gas-shielded arc. U. S. Navy and federal specifications and tabular data on rods are included.

For more details circle **NED-10,224** on enclosed inquiry slip

Welding Accessories

Hobart Brothers Co.—16-page illustrated catalog EW-164-S contains line of arc welding accessories and supplies available from company. Included are headshields, electrode holders, cable, clamps, work holders, cleaning tools, carbon products, clothing, gloves, electric tools, books and other items.

For more details circle **NED-10,225** on enclosed inquiry slip

Overhead Doors & Operators

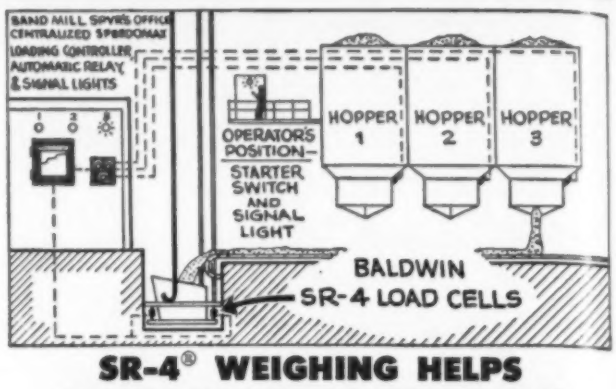
Barber-Colman Co.—16-page illustrated catalog 1406-11 describes Barcol OVERdoors and electric operators. Application details and installation information are included. Doors are offered in several styles for domestic or industrial use, while door operators are electric, electronic and radio controlled. Also included are operators for swinging doors and sliding gates.

For more details circle **NED-10,226** on enclosed inquiry slip

Welding & Cutting Torch Use

National Welding Equipment Co.—"Here's How To Operate a National Welding or Cutting Outfit" is title of 24-page illustrated booklet offered for technical training. It begins with instructions regarding handling and connection of gas cylinders and progresses through adjusting pressures, lighting, and various steps in use of equipment.

For more details circle **NED-10,227** on enclosed inquiry slip



SR-4® WEIGHING HELPS INCREASE PRODUCTION 35%

After trying many measuring methods—all unsatisfactory—this foundry now uses a completely automatic weighing system featuring an L&N Speedomax and Baldwin Load Cells. Once controls are set for the correct mix, the hopper doors open and close automatically—weights of each type of sand are recorded . . . and accurately-measured collector buckets are dumped.

RESULT: 35% more sand is mixed each day . . . mixtures are consistent within 1%.

If you have a batch mixing problem, or problems in measuring torque, weight, explosions, pressure—write for information on the many measuring devices that utilize the unique advantages of the SR-4, postage stamp-sized strain gages.

BALDWIN-LIMA-HAMILTON
TESTING HEADQUARTERS
Philadelphia 42, Pa.
In Canada: Peacock Bros., Ltd., Montreal, Quebec

For more details circle **NED-10,228** on enclosed inquiry slip

Norgren MICRO-FOG LUBRICATORS

RELY ON

ACE PRECISION **NYLON BALLS** FOR EXACT CONTROL

SIZES 1/8"—3/4"
TOLERANCES ±.001

Ace Nylon Balls of DuPont Nylon FM #10001 are mass produced to close tolerances giving you the advantages of toughness at low temperatures, form stability at high temperatures, light weight, dependable chemical and abrasion resistance.

C. A. Norgren Co., Denver, Colorado, uses Ace Nylon Balls as feed tube checks in Micro-Fog Lubricators to provide instant oil flow.

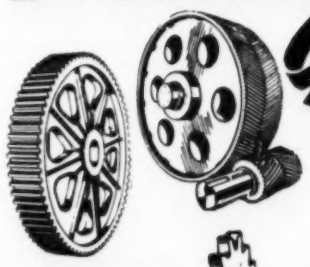
Request samples and bulletin TODAY.

Hundreds of Industrial Applications! Let our engineers advise you.

ACE PLASTIC COMPANY
Precision Plastic Fabricators
91-28 Van Wyck Blvd. • Jamaica 2, N. Y.

For more details circle **NED-10,229** on enclosed inquiry slip

"Industrial Gears"



THE CHOICE OF ALL INDUSTRY

It means something when you can depend upon a manufacturer to furnish the right stuff at the right time.

We, here at Industrial, pride ourselves on our ability to serve. We are gear specialists. Gear production is not a side line or an adjunct to our business.

We have equipment and facilities to produce everything, from a common Spur—to an intricate Spiral, Worm or Herringbone Gear. We cut your blanks or furnish the gears complete—including hardening. Make our plant your source of supply.

See us at work . . .
Write for Bulletin 149

Industrial Gear Mfg. Co.
4541 W. VAN BUREN ST.
CHICAGO 24, ILL.

For more details circle **NED-10,230** on enclosed inquiry slip

SEND FOR THE NEW P 40 PAGE WATER HEATER CATALOG

p-k catalog No. 202 provides you with a simple, rapid means of selecting the correct hot water heater for forced circulation. Capacities from 95 to 101,000 gph. Steam pressures range from 0 to 100 psig. Standard "U" Tube Heaters are available in 2- 4- or 6-pass construction. Water temperatures range from 40° to 100°F. inlet and 80° to 300°F. outlet.

other TAB INDEX FEATURES: Condensate Cooler tables • Dishwater Booster Heater tables • Gravity circulation tables • Hot Water Service Heater tables • Pressure drop tables • Typical piping arrangement

the P Patterson-Kelley Co., Inc.

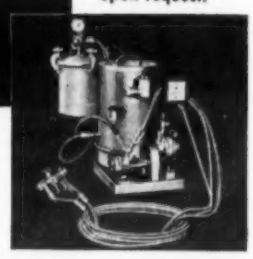
122 BURSON ST., EAST STROUDSBURG, PENNA.

For more details circle NED-10,231 on enclosed inquiry slip

SEE HOW GAST explosion-proof rotary AIR MOTORS helped solve this problem!

See our CATALOG in SWEET'S FILE for PRODUCT DESIGNERS

Gast Application Ideas Booklet—showing 26 design problems solved — sent upon request.



PROBLEM: Specify a motor to drive liquid pump at variable speeds, for Bede Circulating Paint Heater. (A unit for faster, uniform hot finish application.)

SOLUTION: A Gast Rotary Air Motor, running below 500 r.p.m., drives pump at 150 r.p.m. Uses less than 30 p.s.i. air pressure.

RESULT: Power that's economical, dependable, safe. With explosion-proof Gast Motors, entire unit was approved by Underwriters' Laboratories.

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Write Gast, describing your original equipment application. We'll send full details. "Air may be your Answer!"

Original Equipment Manufacturers for Over 25 Years

GAST ROTARY AIR MOTORS (TO THREE H.P.) · COMPRESSORS (TO 30 LBS.) · VACUUM PUMPS (TO 28 INCHES)

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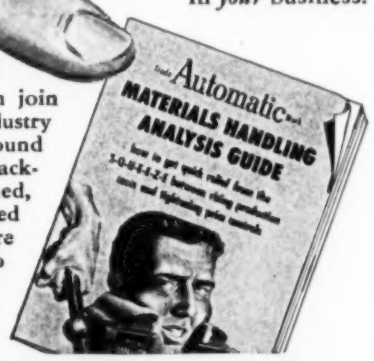

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Chicago 20, Illinois

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E. F. Houghton & Co.—"Houghton's Government Specification Products" is title of 8-page booklet that contains listing of products meeting government specifications in following classes: rust preventives, lubricants, metal working aids, cutting oils, and leather and synthetic rubber products.

For more details circle NED-10,234 on enclosed inquiry slip

Packaged Steam Generators

Superior Combustion Industries, Inc.—Photographs, cutaway and schematic drawings illustrate 16-page catalog on Superior steam generators. Charts and tables provide dimensions, specifications and test results on units for oil and gas operation with capacities from 700 to 2420 lb of steam per hour at 212° F.

For more details circle NED-10,235 on enclosed inquiry slip

Electric Contact Controllers

Minneapolis-Honeywell Regulator Co., Brown Instruments Div.—Vane type electric contact control units used in Electr-O-Vane thermometers and pressure gages and ElectroniK potentiometer are described and illustrated in 16-page catalog 8000. Other uses are in Pyr-O-Vane and Protect-O-Vane millivoltmeters.

For more details circle NED-10,236 on enclosed inquiry slip

Chucks & Accessories

Union Mfg. Co.—New styles and additional sizes of chucks are described in 96-page illustrated catalog No. 63. First of five sections features manufacturing standards shown in picture form. Others are devoted to independent, scroll and scroll combination chucks; air chuck cylinders and accessories; and parts price lists.

For more details circle NED-10,237 on enclosed inquiry slip

Information On Stampings

Laminated Shim Co., Stampings Div.—Designed to give stampings purchasers information that will assist them in preparing specifications that insure lowest quotations, this 12-page illustrated booklet details facilities and services of company. Machines can produce from 100 to 40,000 stampings per hour.

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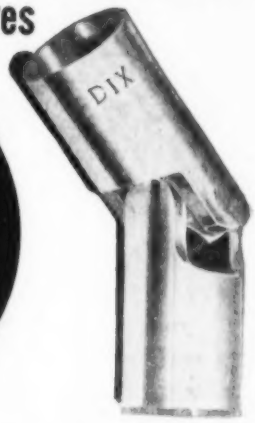
LOVEJOY Universal Joints



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Mfrs. of Lovejoy Flexible Couplings & Variable Speed Controls

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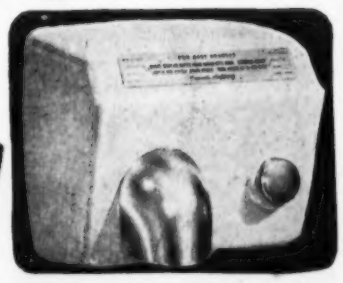

Yes, no bills for Towels and Washroom Maintenance

With the perfected, automatic NATIONAL HAND DRYER —dries hands completely dry in 20 seconds!

Eliminates the constantly mounting cost of paper towels or towel service—no storage problem, no filling of cabinets, no removal, cleaning and disposal time or attention. No time when clean, sanitary drying service is not available.

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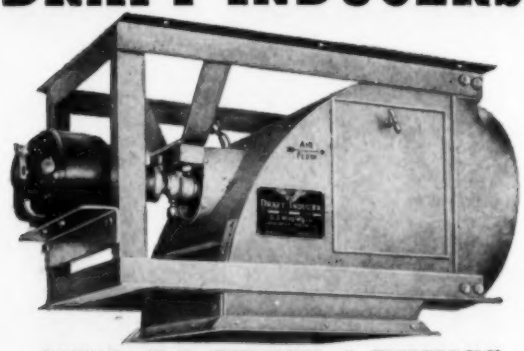

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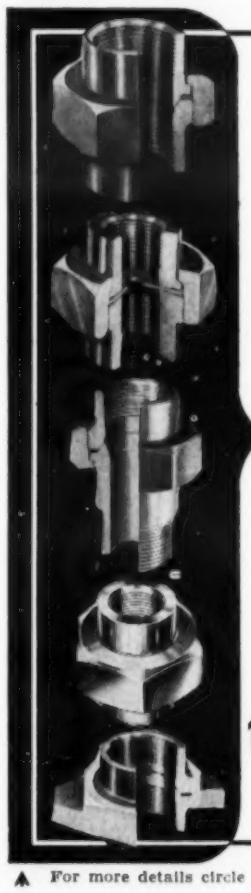

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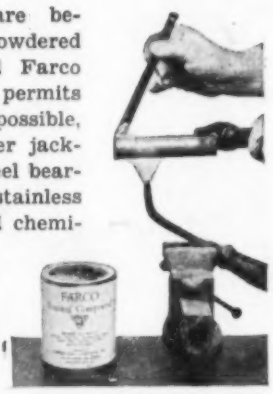

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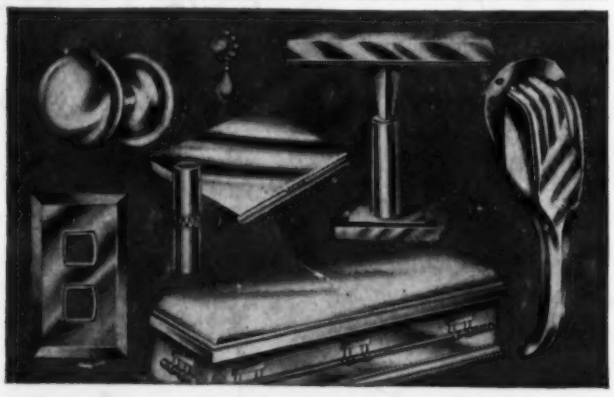

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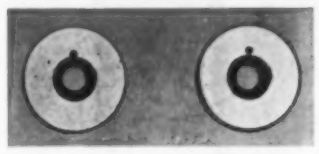

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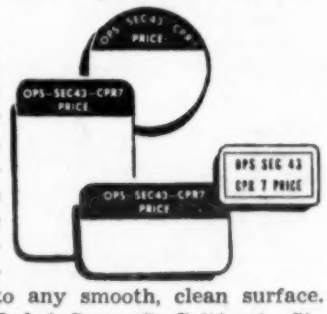

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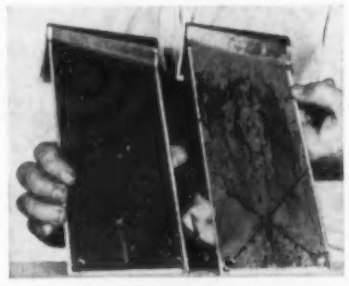

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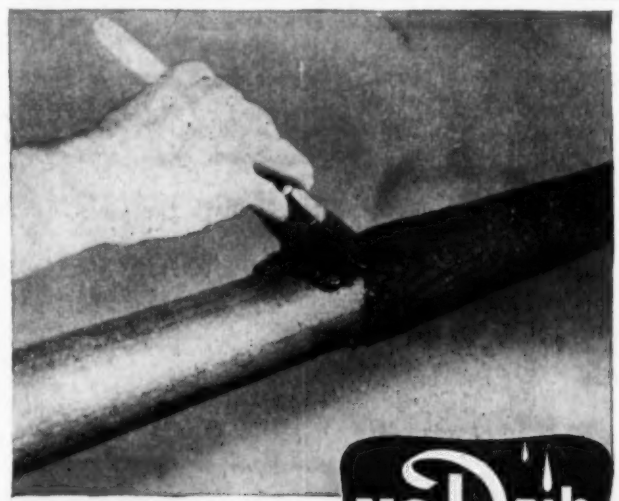

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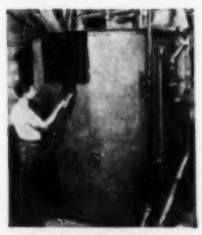

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